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AN ECONOMIC CORRIDOR STUDY:

THE ECONOMIC EFFECTS OF INTERSTATE 90 BETWEEN BOZEMAN AND THREE FORKS, MONTANA

By

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Prepared for the Montana State Highway Commission in cooperation with the Federal Highway Administration

University of Montana
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1971

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Daniel R. Blake
September, 1967

After Phase

The final segment of the corridor project began toward the end of the summer, 1970, and was completed in the spring of 1971. Many persons participated in the completion of the project. The cooperation they gave is hereby acknowledged. Particular citation is due Paul Devine and Robert Garber of the Planning Survey Section of the Montana Highway Commission. The State Board of Equalization provided assistance in obtaining gross receipts data. Within the Bureau of Business and Economic Research and School of Business Administration, various types of services were preformed including research investigations, programming, computational work, typing, and interviewing. Members of the staff providing assistance with these activities include Carla Booker, Steven Carlson, Lorraine Carlson, Curtis Hessler, and Annick Smith. Their contributions are appreciated.

Thomas O. Kirkpatrick
April, 1971

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CHAPTER ONE

INTRODUCTION

Objectives

The objectives of this research project are: to determine the relevant economic variables of the corridor area between Bozeman and Three Forks, Montana, and to measure the economic effects, if any, Interstate 90 has had upon business in that area during the first few years after its completion. Thus, the study attempts to measure intermediate-range economic effects and compares them to economic conditions existing just before the construction and opening of the new interstate highway.

The primary economic variables under investigation include gross sales, business employment, number of businesses in operation, and the amount and composition of highway vehicular traffic. Secondary variables, used to infer levels of economic activities either directly or indirectly, are gasoline gallonage sales, electrical consumption, telephone hookups, bank deposits, and public school enrollments. In addition, to add a qualitative dimension, business operators were interviewed and asked to give opinions regarding the short- and long-run economic effects of the new interstate on their businesses.

Primary and secondary variables were measured prior to the completion of Interstate 90 and two and three years following completion. Comparisons of the resulting data provided a basis for concluding what economic effects, if any, were created by the highway. Such effects may be described in terms of economic growth, stabilized conditions, or decline of the three types of economic structures under study: (1) the general corridor economy; (2) the individual economies of the various communities; or (3) the segments or industries either in the entire corridor area or within individual communities.

Need for the Study

Both the general public and administrative governmental agencies are demanding more accurate forecasts concerning the economic and social effects of major technological developments and large-scale construction projects. They want to know what changes in human behavior and what significant benefits or harm to society or a segment thereof will result from such new activities.

Highway systems, as a major category of transportation systems, undoubtedly influence a population's travel patterns and commercial and avocational pursuits. In addition, people live and work where businesses are located and the development of highway transportation systems may well influence where and how trade develops. Location and construction of modern highways typically are based upon projected demand and the economic values that would be created. Highways serve not only local residents and their economies but also larger regional populations and their economic structures.

Information about the nature and magnitude of the economic impact of new highways on local economies should be useful to planners in several areas. Probably one of the most important applications of this study will be to increase communication between the Montana Highway Commission and persons living in towns which would be bypassed by a new highway. Residents frequently are concerned about the economic and social effects which will be realized when the new facility is completed. This study should serve as an example by providing answers about the experiences of one group of communities--the "corridor" area. It explains both positive and negative effects as well as the short- and intermediate-run effects of the construction of a new highway which bypasses towns previously located on the main route.[1]

Scope and Limitations of Research

Scope

The economic corridor study is delimited by several bases: geographical boundaries, activities investigated, and relevant time periods. The corridor area extends from Bozeman to Three Forks.

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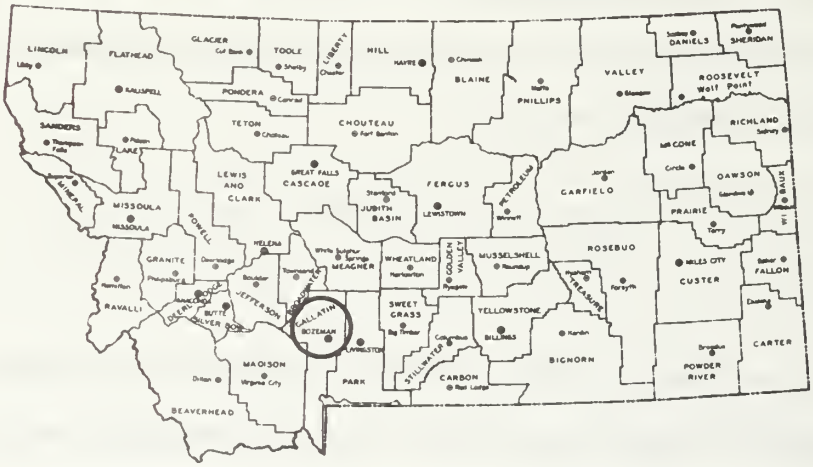
[1] The economic corridor study is the third of a series conducted by the Bureau of Business and Economic Research at the University of Montana. Two previous studies of the economic and social effects of new highways have been completed in recent years. The first was concerned with the effects of highway bypasses in the towns of Superior, St. Ignatius, Cascade, Deer Lodge, and Lima, Montana. The second investigated the economic impact of the completion of Montana highway 209 in the Swan-Clearwater Valley.

See Gene L. Erion, Effects of Highway Bypasses on Five Montana Communities, Bureau of Business and Economic Research, University of Montana, Missoula, Montana, 1965. Also see Lawrence J. Hunt, et al, The Economic Impact of State Highway Montana 209 on the Swan-Clearwater Valley, Bureau of Business and Economic Research, University of Montana, Missoula, Montana, 1967. Both reports were prepared for the Montana State Highway Commission, Planning Survey Section, in cooperation with the U.S. Department of Transportation, Federal Highway Administration, Bureau of Public Roads.

It is approximately thirty miles long and ten miles wide. The major communities within the perimeter are Bozeman, Belgrade, Manhattan, and Three Forks. Several smaller communities are also located in the area. Interstate 90 divides the northeastern half of the corridor from the southwestern portion. See figure 1, below, for the location of the study area within Montana.

Figure 1

THE ECONOMIC CORRIDOR AREA



The activities investigated were gross sales volume and employment of retail trade, finance, insurance, real estate, and service firms of the corridor area. Supplementary data included electric power consumption, telephone hookups, bank deposits, school enrollments, gasoline gallonage sold, and highway traffic count data.

Finally, the time span of the study ran from the beginning of 1965 through 1969, with 1965 representing the base year in which first measurements of economic indicators were made and resurveys taken during 1968 and 1969.

Limitations

The impact of a new highway often is difficult to assess because of the number of uncontrollable variables affecting the economic and social conditions of the region dissected by the new highway. Several restrictions on the data obtained during the study should be stated.

The large population of Bozeman relative to the remaining communities made it extremely difficult to measure shifts in economic activity where such changes would appear in Bozeman, per se. During the 1960's, Bozeman's population grew by approximately 40 percent, while the population of the remaining corridor towns, with the exception of Belgrade, remained relatively stable. Belgrade increased about 23 percent. Bozeman has about 82 percent of the total population of the various corridor communities and comprises an estimated 87 percent of gross sales of firms included in the study. No other community within the corridor had a population share exceeding 6 percent of the corridor's total number of residents or a gross sales volume exceeding 4 percent of the area. Any significant shifts of either people or sales volume from the smaller communities to Bozeman would be lost in Bozeman's summary statistics. For example, a 20 percent decline in gross sales in Belgrade which shifted to Bozeman would be only a fraction of 1 percent increase in Bozeman. However, by concentrating on the individual economies of the various towns in the corridor the research team was able to make useful analyses of economic conditions.

Three Forks was originally designated as a control town where the magnitude of uncontrollable variables would be measured to provide a basis for adjusting data in the remaining communities. However, because several large highway construction contracts existed for construction of new Interstate 90 highway sections west of Three Forks during the period from 1967 through 1970, the impact of construction workers on the community could not be determined. The use of Three Forks as a control had to be abandoned. Although the study group made no adjustments to the various data for Three Forks to compensate for any uncontrollable variables, the data were acquired and analyzed with the other corridor towns. The subsequent analysis views Three Forks as just another of the study area towns but a town that was not bypassed.

Researchers encountered difficulties in sample surveying business owners and managers for gross receipts information in the after phase. Where the State Board of Equalization could not provide gross receipts data, samples were drawn and interviews conducted to acquire necessary data. Several business operators refused to participate--which is their recognized right--even though most of them had been contacted five years previously and cooperated at that time. The individual judgment of the project director had to be applied to estimate gross receipts for these firms. In making such judgments, consideration was given to the 1965 data which they provided and to the visual features of the individual businesses, including reports from interviewers about the merchandise offering, general store appearance, and volume of traffic. It is believed the judgments made were the best that could be made under the existing circumstances. A basic criterion followed in making judgments where cooperation was not secured was the attempt to be consistent.[2]

Definition of Terms

Several terms used throughout the report are defined as follows:

The economic corridor or corridor is the geographic area containing the communities of Bozeman, Belgrade, Manhattan, Three Forks, Trident, Logan, Willow Creek, and Amsterdam. Slightly over 23,000 persons reside within the area. It is traversed by 28.5 miles of Interstate 90 highway.

A firm is a business organization under central ownership and control. It may consist of two or more separate establishments which operate on the same level of a channel of distribution and sell the same or similar types of merchandise; or the individual establishments may operate on different levels of the channel and may sell different lines of merchandise. An establishment is a

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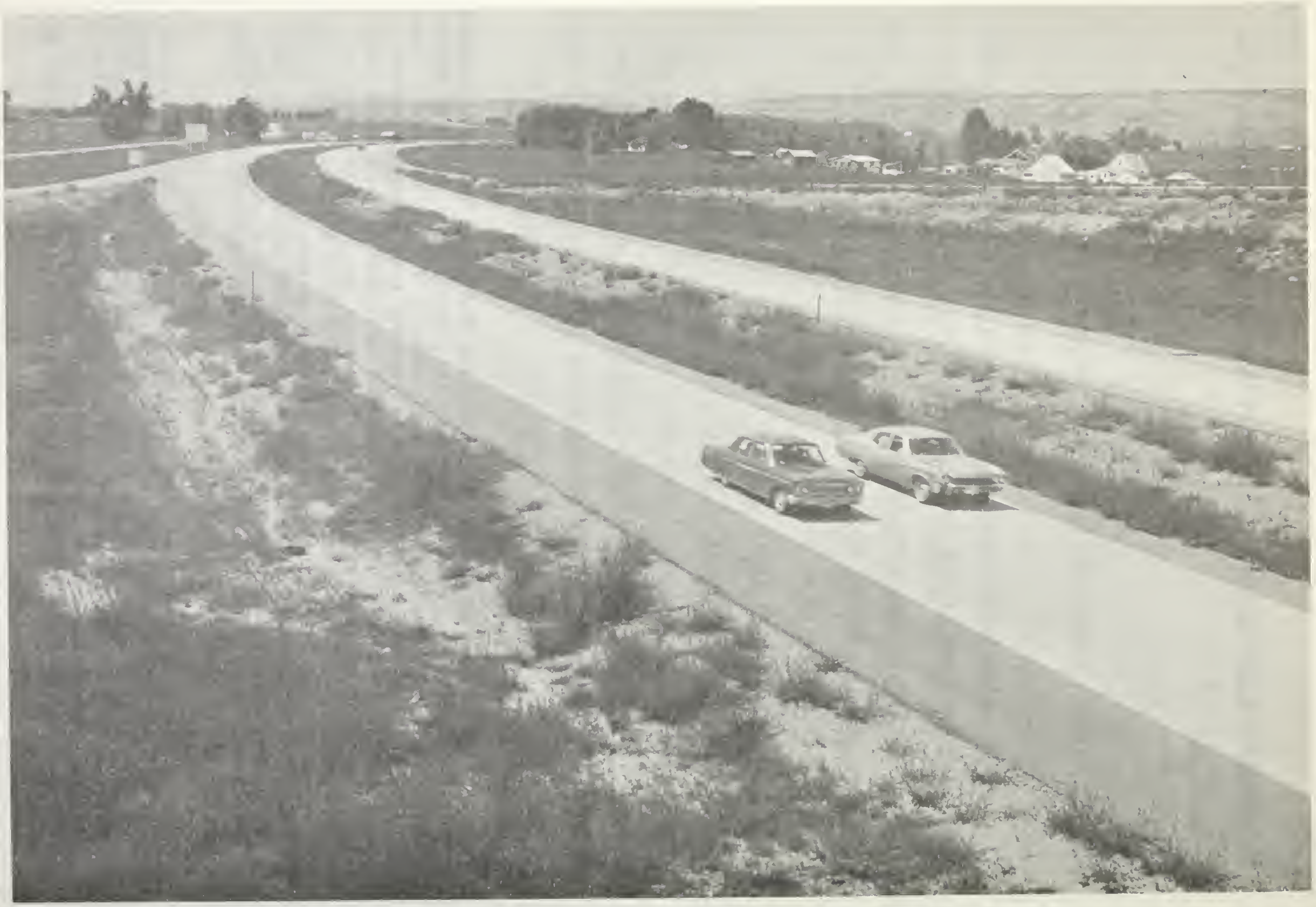
[2] All of the interviewers conducting the gross receipts surveys were professional personnel trained in interviewing and were either University of Montana teachers or personnel from the Bureau of Business and Economic Research. It is thought that several factors contributed to the decline in cooperation. The general condition of the national economy and that of Montana in 1970 reflected an economic recession. Since the respondents were business operators, they were acutely involved in the economic downturn. The State of Montana, furthermore, faced a severe budgetary crisis at the time. Considerable publicity had been given the subject of raising tax revenues. People were "up tight" about these conditions and other broad national social problems.

In several interviews the respondents believed the interviewer was not working for the University of Montana but was an employee of the U.S. Internal Revenue Service or, perhaps, some other agency. Several respondents indicated they had been advised by their attorneys or accountants not to divulge gross receipts information. One person commented, "Only God, my accountant, and I know what my sales are."



Interstate 90 as viewed from Manhattan, Montana, interchange.

Montana Highway Commission

single or separate place of business. Thus, a firm may be composed of several establishments. This study employs the concept of the firm; however, usually the firm investigated was also a single-unit type of business organization, which could also have been considered an establishment.

An employee is generally considered to be a person who works for wages or salary in the service of an employer. The term was redefined for the corridor study to include the traditional persons covered by the definition plus the proprietor and his immediate family working in the proprietor's firm. A significant number of the firms studied have only one, two, or three persons providing labor, thus, the inclusion of proprietors and immediate families working reflected more accurately the number of gainfully employed persons within the corridor area.

Organization and Presentation Format

The report is divided into six major sections and a series of appendixes. Chapter One gives an introduction to the study, and Chapter Two presents the major conclusions and findings arising from the corridor investigation. Chapter Three describes the "before and after" study design as it was applied to the corridor area. Additional descriptions and details of the methodology are found in Appendix A. Chapter Four discusses the economic environment of the study area as it has evolved historically. The major findings of the research project are presented in Chapter Five. Analysis of the information is included in Chapter Five. Supplementary data and findings are given in Appendix B. Finally, Chapter Six presents the study's conclusions and recommendations.

CHAPTER TWO

MAJOR CONCLUSIONS AND FINDINGS

It was determined that corridor communities had varying degrees of dependency upon highway traffic for their economic well-being. Belgrade, for example, was more vulnerable to relocation of the highway than the other communities. In 1965, 58.0 percent of its retail sales volume occurred in the highway business sector. This percentage declined to 55.7 percent in 1969. The relationship of highway to nonhighway businesses would place Three Forks in an intermediate position. Highway firms' sales increased from 29.1 percent to 35.6 percent during the period of 1965 through 1969. Both Bozeman and Manhattan had economies heavily based on nonhighway business sales. In 1965, only 16.4 percent of Bozeman's retail sales were made by highway businesses; in 1969, highway firms' sales had declined to 14.6 percent of the total. Manhattan's sales by highway firms increased slightly during the period from 9.2 to 9.9 percent.

Economic growth was exhibited by the corridor as a whole. During the period from 1965 through 1969, sales of retail establishments which were included in the corridor study are estimated to have increased from $56.0 million to $78.2 million--an increase of 40.0 percent. The highway sector for all communities combined increased an estimated 27.3 percent while nonhighway business rose

42.2 percent. Constant dollar increases were from $56.0 million to $67.3 million during the same period.

With few exceptions, evidence indicates Interstate 90 was not detrimental to the continued economic development of the corridor communities. One exception is found in the highway-oriented businesses of Belgrade. In current dollars, sales for Belgrade's highway businesses declined as a group 3.8 percent from 1965 through 1968. Sales increased to 9.0 percent above the 1965 level by the end of 1969, though. The loss of one service station occurred shortly after I-90 bypassed Belgrade. The remaining three stations continued in operation. The "bypass effect" is evident in Belgrade's highway-oriented business sector.

Three Forks appears to have been a short-run beneficiary in the highway business category with the bypassing of Belgrade and Manhattan. Highway business sales relative to total retail sales increased from 29.1 percent in 1965 to 39.0 percent in 1968; thereafter, the proportion of highway business sales declined in Three Forks to 35.6 percent in 1969 as it was partially bypassed.

Employment in the corridor increased by 216.9 persons in retail firms from 1965 through 1969. Of the 8.5 percent increase in employment, Bozeman absorbed all but 13 persons. They were employed in Belgrade and Three Forks. Manhattan actually lost 7.5 persons in highway business employment. For the corridor as a whole, employment in the highway sector of businesses increased 19.1 percent while nonhighway businesses' employment increased only 4.8 percent. The relationship is likely distorted by the relative distribution of employment in Bozeman.

The proportionate share of corridor economic activity appears to be increasing in the community of Bozeman. Its share of gross receipts, considering the entire corridor, increased from 85.2 percent in 1965 to 86.9 percent in 1969. Retail employment during this period rose from 86.2 to 90.5 percent.

The number of highway and nonhighway firms in the corridor declined as a group 1.4 percent from 552 firms in 1965 to 544 in 1969. In almost all instances, Interstate 90 was not considered a causal factor for the decline. In only two cases of the 552 firms, could I-90 be considered one of the major factors associated with the closure of a business.

The total number of lodging units in the corridor decreased 2.5 percent from 1965 through 1969. The number of firms providing lodging facilities also declined from 33 to 28 during that period. However, the average number of units per firm increased by 3.7 units to an average size of 28.9 units per firm. Three Forks had the largest reduction of lodging units. It declined from 135 to 78 units by the end of 1969. The decrease represented conversion of lodging facilities to either apartment or boarding houses. Interstate 90 was not considered a causal factor because Three Forks was not bypassed during the time of the study. On the other hand, one lodging firm with 12 units did go out of business in Manhattan soon after the town was bypassed.

The total number of service stations in the corridor increased from 45 to 50 or an 11.1 percent increase from 1965 through 1969. Gasoline gallonage sales increased 32.9 percent. The largest gallonage gain was in Bozeman which increased 39.8 percent. The average gallonage pumped per station increased 19.6 percent. Bozeman gained five of the new stations. Belgrade lost one. The remaining three stations in Belgrade pumped 15.8 percent less gasoline in 1969 than the four stations sold in 1965. However, with one fewer station, the average service station sold 12.3 percent more gasoline in 1969.

The total number of customers for electricity increased 10.5 percent in the corridor. Total KWH consumption of electricity increased 40.4 percent. The number of residential customers increased 10.2 percent with a 31.0 percent increase in residential KWH consumption. All of the corridor communities showed increases in both customers and power consumption. The effects of Interstate 90 could not be determined by measurement of this economic variable.

Telephone customers increased 29.8 percent from 1965 through 1969. Bozeman and Belgrade increased 32.3 percent and 29.3 percent, respectively, while Manhattan and Three Forks gained 15.2 and 12.8 percent.

Total deposits of banks in the corridor increased 38.9 percent as a group. Three Forks had the largest increase of 83.0 percent. Belgrade had the lowest growth with 30.2 percent. Interstate 90 is believed to have been a causal factor leading to the decline in Belgrade's bank deposits in 1966. In that year, they were 10.1 percent lower than in 1965. The loss was recovered by the end of 1967 and has continued to grow each year since.

Public school enrollment increased 9.8 percent through the 1968-69 school year. Most of the growth was in Bozeman. Belgrade's public schools grew 4.5 percent after a slight decline during the

1966-67 school year. Manhattan declined 12.4 percent from 1965 through 1969. For the same period, Three Forks was down 2.6 percent. The decline in Belgrade's enrollment in 1966 may be indicative of the impact of I-90 since Belgrade had enjoyed school enrollment growth the preceding six years. On the other hand, Manhattan and Three Forks had been stable prior to the construction and completion of Interstate 90.

Owners and managers of firms in the corridor were interviewed about their opinions of the effects of I-90 on their businesses. While positive effects tended to outnumber the negative effects, there were differences between highway-oriented businesses and nonhighway firms. Differences also existed between the short- and long-run, and differences existed among the various communities. In the short-run, for example, 13.5 percent of all highway-oriented businesses stated I-90 had negative effects on their firms. Only 3.4 percent of the nonhighway business group considered the effects of I-90 to be negative in the short-run. In the long-run, 20.6 percent of the highway-oriented firms thought I-90 would have bad effects and only 4.6 percent of the nonhighway businesses believed the effects would be detrimental to their businesses. In the bypassed communities, the negative responses in relative terms tended to be higher than for those communities not yet bypassed. The vast majority of business operators, though, considered I-90 both in the short- and long-run as either having no negative effect on their businesses or they had not formed opinions about the probable effects.

CHAPTER THREE

METHODOLOGY

During the past decade, considerable interest has been generated about the economic effects created by major expenditure projects undertaken by various levels of government. Projects of particular interest include dams, job training programs, military installations, and, as in this study, highway relocation and improvement. The economic importance of such projects has been often studied and evaluated. Several techniques or research designs have been developed for this purpose. One of the more popular designs--the before and after study--is used in this research project.

Before and After Studies

Even though many variations exist in the research design of individual studies, a basic format and several criteria are common to all before and after studies. The basic format obviously involves two major segments of research: a before and an after phase of investigation. In the before phase, researchers study and describe selected economic activities as they exist before project completion. In the after phase, the same activities are described as they exist after the completion of the project. In each phase, researchers measure the magnitude of the relevant economic variables. Through interpretation of differences in the measured variables, the study team may be able to determine the economic effects, if any, caused by the project. There are two basic methodological requirements for before and after study designs:

1. Selected variables should reflect the most significant or meaningful economic activities.

2. Procedures used to measure these activities should be identical in each phase.

Whether the study is initiated to determine the total economic effects of a project or to determine the effect on specific economic activities, selection of the appropriate variables to be measured is of major importance. Once the particular variables have been determined, any impact the project has on other activities would not be measured by the research.

The second requirement--that identical measurement procedures must be used in each phase--is self-evident. Measurements are used to gauge the amount of activity before and after a project's completion. Values obtained from measurements are compared to determine changes in the nature and amount of the variable. It is essential to the accuracy of the study that the changes revealed by comparisons represent real changes in the nature and amount of the activity. If different measuring procedures are used in each phase of the study, an apparent change may merely reflect a different basis for measurement. For example, if gross receipts from some businesses which had been omitted in the before phase were included in the after phase, a comparison of the two totals would not be valid.

In the comparison of the values obtained from before and after measurements, there will be some changes in the variables which will not be attributable to the impact of the highway project's completion. There are several factors in any local economy that cause change; the amount of change in the variables caused by factors other than the project have to be taken into account in the interpretation of the project's impact. In order to determine the amount of change attributable to the completion of the new project, the research design of before and after studies includes a system of "controls." The controls should reveal the approximate amount of change which would have occurred if the project had not been undertaken. The control system involves the measurement of some economic activities or variables which are not affected by project completion and are indicative of the amount of change which otherwise would have taken place.

Controls can originate either inside or outside the study area. The most popular control involves the use of a second study area, generally called the control area. In this case, an area with a similar economy is selected so that all the economic influences in the study area other than the highway project would also be present in the control area's economy. The same variables measured in the control area variables are assumed to be "normal," i.e., changes which would have otherwise occurred in the study area. Normal changes are then subtracted from the changes determined in the study area and the remainder is attributed to the impact of the completed project.

If an "inside control" is used, it is not necessary to examine any area outside the study area. In this case, the nature of the completed project is such that some segments of the study area economy are not affected by the new project. The changes in some of these unaffected variables are measured and their change assumed to be normal. As in the case of the outside control area, normal changes would be subtracted from the changes in the affected variables and the differences, if any, are attributed to the impact of the completed highway project.[3]

Regardless of the type of control system used, one must assume that the changes experienced by the control are indicative of those which would have occurred in the economic activities investigated had the project not been undertaken. That assumption limits the ability of this study design to reveal the changes caused by a particular project. If some events not related to the project affected only the studied variables or only the control variables between measurements, the accuracy of the results would be impaired. To illustrate, if an event affected only the control, the measurement of the control would not reflect "normal" change. If, on the other hand, an occurrence affected only the studied variables, the change determined by measuring these variables would not be "normal" change plus change attributable to the project.

Economic Corridor Study Design

The research design of the Economic Corridor study is an adaptation of the general before and after research design as applied to a particular highway relocation and improvement project. The following discussion considers: (1) the activities and variables selected for investigation; (2) the reasons for their selection; and (3) the controls applied in the investigation.

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[3] A third category of variables--in addition to the experimental and uncontrollable variables--arising from the measurement process itself may exist. However, their magnitude or capacity for inducing bias is likely to be small in this study. The classical design which permits measurement of all categories, the "Four-Group, Six Design," is vastly complex and expensive for our purposes.

The activities selected for study were those most likely to be affected by highway relocation and improvement. Specifically, the activities or industries included were: retail trade, finance, insurance, real estate, and services. All were confined to the corridor area communities. The rationale underlying selection was based upon the particular highway relocation and improvement project.

The completed I-90 highway extends from Bozeman to Three Forks; it is a four-lane divided highway which bypasses Belgrade and Manhattan. The new highway makes traveling within the corridor more pleasant, less hazardous, and less time-consuming. The user values created by the highway may become manifest in increased mobility of residents within the corridor area and may affect, both in the short- and long-run, the distribution of consumer purchases. In addition, because the new highway bypasses Belgrade and Manhattan, businesses that offer such items as meals, refreshments, gasoline, and lodging may be adversely affected in the two bypassed communities. These effects of a new highway would be reflected in the amount of business activity in the consumer-supplier industries selected for investigation.

The economic variables that were considered indicative of the amount of business activity in the selected industries were gross business receipts, employment, and number of businesses. The gross business receipts of firms in the designated industries may be defined as the amount of business activity occurring within a given time period. Employment data were obtained because employment may be considered a proxy variable for gross receipts. Over a period of time, changes in employment should be closely related to changes in gross receipts. The number of firms reveals the concentration of business activity when compared to employment or gross receipts. Data were obtained for retail trade, finance, insurance, real estate, and service firms in each corridor area community. The highway's effect on these indicators in each community was analyzed in detail.

Several series of supplementary data were also collected for analysis. Some of these data provide controls for the study, while others are used to support conclusions made from investigations of the major variables. The supplementary data include: electric power consumption and number of users; telephone users; number of gallons of gasoline sold; bank deposits; and public school enrollment.

With the exception of gross receipts, employment, and data about the number of firms, series cover the entire span of the 1960's. This technique permits observation of trends which may have developed during the first half of the 1960's, although data for the major indicators exist only for the period of 1965 through 1969.

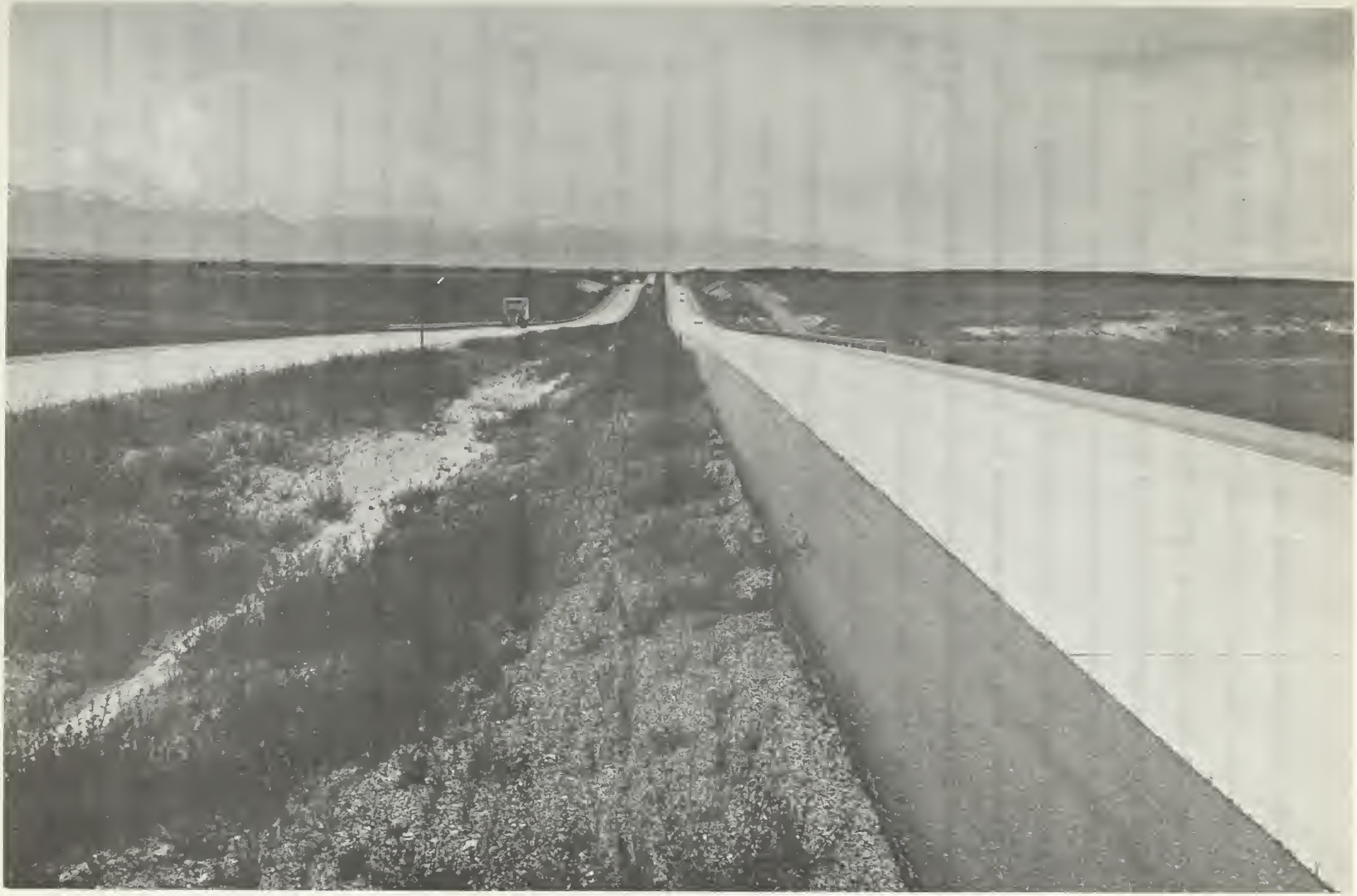
Controls for this study originated inside the study area. The controls were developed on the basis of the nature of the potential "bypass effects" and "mobility effects" of the major highway relocation and improvements. Because both categories are closely related, an elaboration of their importance and nature is warranted at this point.

The "bypass effect" arises as a result of highway relocation. The newly completed section of Interstate 90 bypasses Belgrade and Manhattan; previously, highway traffic was routed through both communities on U.S. 10. Relocation may affect the buying patterns of the highway-users who buy gasoline, meals, refreshments, lodging, and miscellaneous goods and services while traveling. Since the highway-users no longer have to drive through Belgrade and Manhattan, their expenditures in these two towns may decline. On the other hand, bypass studies have revealed another possible effect of highway relocation: when highway traffic is removed from the main streets of a town, its shopping facilities may become more attractive to area residents. Because traffic congestion and parking problems are reduced and pedestrian safety improved, residents may increase expenditures at local shopping facilities. Thus, the bypass effect may cause a change in highway-user and/or resident purchases in the bypassed communities.

In order to research these possible effects, the businesses in each study area community were divided into two groups--highway-oriented and nonhighway-oriented. Highway-oriented businesses are firms patronized heavily by highway users; such firms include gasoline service stations, restaurants, bars, and most hotels and motels. All other retail trade, finance, insurance, real estate, and service firms are classified as nonhighway-oriented businesses; these firms are almost exclusively patronized by area residents. Therefore, if the bypass affected highway-user purchases, the effects would be reflected in the indicators--gross business receipts, employment, and number of firms--for the highway-oriented businesses in Belgrade and Manhattan. Similarly, if the bypass affected resident purchases in these two communities, it would be shown in the nonhighway-oriented business indicators.

Originally, it was believed that the bypassing of the communities between Three Forks and Bozeman would not affect Three Forks. Highway traffic was routed through Three Fork's during the five-year period of investigation, 1965-1969. It was assumed that the changes in the amount of activity in the highway-oriented and non-highway-oriented businesses in Three Forks would be indicative of what would have occurred in Belgrade and Manhattan if the highway had not been built. Theoretically, to determine the potential bypass effects resulting from the new highway, Three Forks business activity was to be used as a control for Belgrade and Manhattan economic activity. A comparison of changes in some of the supplementary data for Three Forks and the bypassed towns would indicate the extent of a bypass effect. If such an effect was present, it would have affected highway user characteristics and gasoline sales. However, highway construction northwest of Three Forks on Interstate 90 during the period 1967-1970 rendered the community less reliable as a suitable control. Several large highway construction crews operated in the area with a stimulating influence on the Three Forks economy.

An examination of the origin and destination studies would reveal any significant changes in the stops of travelers made in Belgrade and Manhattan. In these studies, motorists were asked



Interstate 90 between Logan and Manhattan, Montana.

Montana Highway Commission

where their last stop was and where their next stop would be. Origin and destination studies adjusted to the 1965-1969 period show the last stop and next stop characteristics as they existed prior to the new Interstate 90 and after its completion. A comparison of these characteristics of highway users (particularly nonresidents of the study area) with those determined in later studies reveals the changes in the number of stops made in each of the study area communities. The change in the number of stops made in Three Forks has limited use as a control for Belgrade and Manhattan.

Conclusions derived from gross receipts comparisons are partially supported by an examination of gasoline sales data. Gasoline sales are reported by community. Thus, a comparison of the change in gasoline sales in Belgrade and Manhattan with the change in Three Forks reveals the bypass's effect on gasoline sales.

The "mobility effect" is a potential effect of the highway created largely by its nature as an improvement. Undoubtedly, the new highway has increased the corridor area residents' access to the larger shopping facilities in Bozeman. As a result of increased mobility, residents may have shifted some purchases to Bozeman.

An alteration in the distribution of consumer purchases would be accompanied by a significant change in the use of area highways by the study area residents. If the residents of the small communities are making proportionately more shopping trips to Bozeman, data collected in the origin and destination studies of highway users would reveal a degree of the change. In the original design, highway users were to be classified by their vehicle registration. Gallatin county residents would be isolated and their characteristics examined. If the analysis did not reveal significant changes in the amount of commuting by the residents, there would be no significant mobility effect. If a significant change in commuting was revealed, it would indicate a redistribution of consumer purchases and a consequent impact on the gross business receipts of study area communities.

If the commuting patterns changed appreciably, change in gross receipts in each community would be examined. Particular attention was given to gross receipts of nonhighway-oriented businesses. The exact comparison chosen depended largely on the nature of the changes in the commuting patterns. Theoretically, if travel patterns revealed that one community experienced no significant changes in commuting patterns, that community could be used as a "control" in determining the extent of the mobility effect on the other communities. However, the highway traffic survey for 1965 was not suitable for inclusion in the study; a previous study completed in 1958 was substituted. The necessary adjustments involving use of inflators and deflators to both the 1958 and 1970 traffic studies restriced the application and appropriate use of traffic surveys in the study. They were, therefore, not used.

If no control was possible, comparisons between communities could be made on the basis of changes in gross receipts and residential electrical hookups. Because almost every household has electrical service, changes in the number of residential electrical hookups by towns are indicative of the change in the number of residents by town. Barring substantial changes in incomes, the gross business receipts in each town should normally experience at least as much growth as (or no more decrease than) the change in the number of residents. Thus, by comparing each town's change in gross receipts with its change in residential electrical hookups, it can be determined whether a minimum normal change in business activity did occur. However, this comparison would reveal a redistribution of consumer purchases only if the redistribution was large enough to cause a community's gross receipts to fall below its minimum control change.

The controls and comparisons described above are largely those prescribed during the before phase study. Limitations on their appropriateness, in some cases, became apparent during execution of the after phase study. Such limitations are identified and brought to the attention of readers where they occur.

An additional description of the methodology prepared for the before phase is found in Appendix A. These procedures were followed consistently in the after phase.

CHAPTER FOUR

THE STUDY AREA AND ITS ECONOMIC DEVELOPMENT

The physical and economic characteristics of the area of investigation largely determine the impact which a modern divided highway with limited access will have upon the economies of bypassed communities. Consequently, these characteristics provide a context for studying the effects of highway construction projects, and influence the research design.

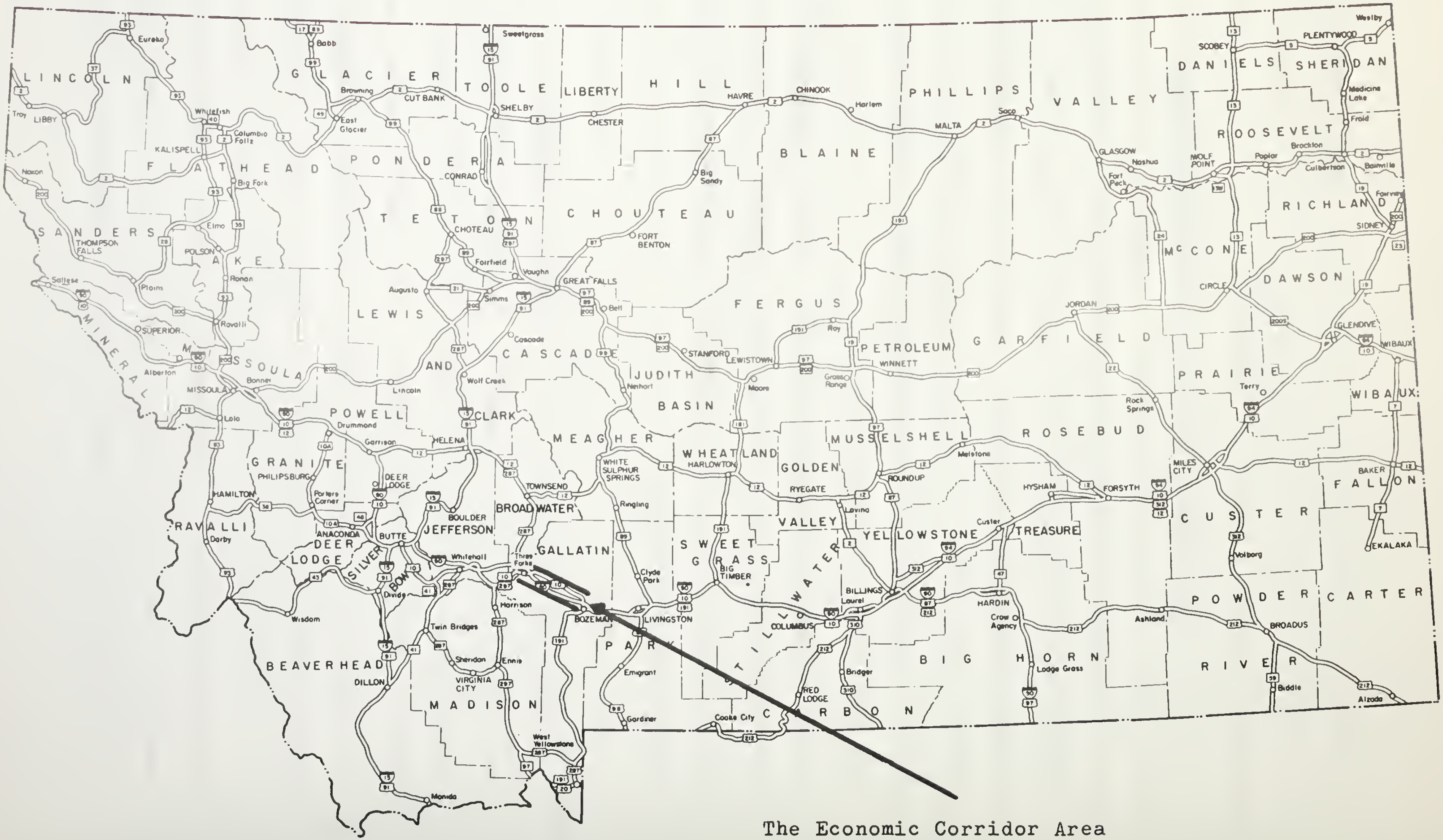
The following pages describe the relevant characteristics of the study area. Particular attention is given to communities in the corridor area, local transportation systems, and development of the local economies.

The Study Area

The study area, the economic corridor, extends in a northwesterly direction from Bozeman to Three Forks. It is about thirty miles long and averages approximately ten miles in width. In addition to Bozeman and Three Forks, the economic corridor includes the communities of Belgrade, Manhattan, Amsterdam, Churchill, Logan, Trident, and Willow Creek. Figure 2, page 4.2, indicates the economic corridor in proximity to other Montana cities and Montana's interstate highway system. Figure 3, page 4.3, shows the location of the various communities within the corridor relative to one another and the several forms of transportation which exist.

Figure 2

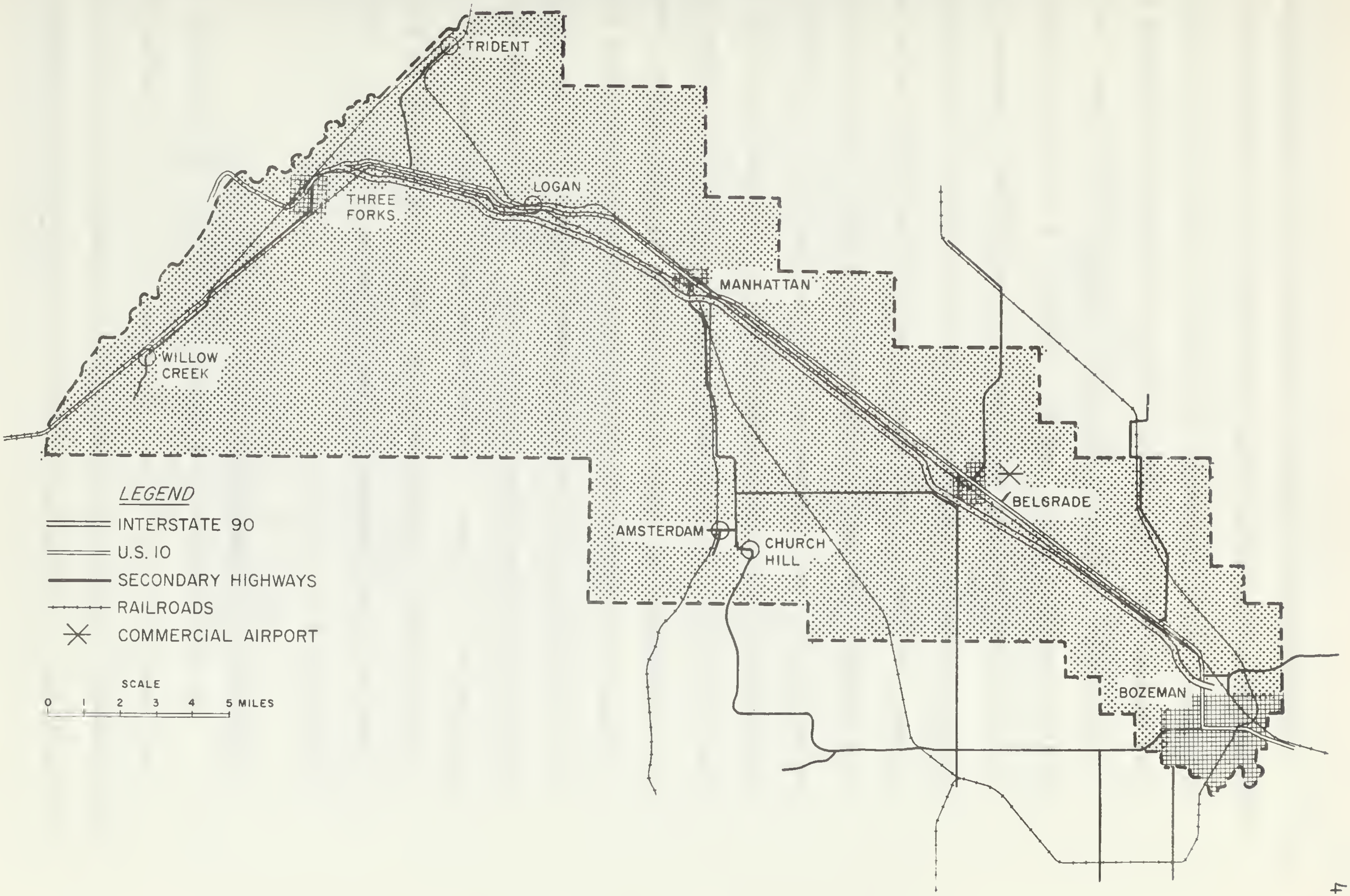
THE ECONOMIC CORRIDOR AREA IN RELATION TO OTHER MONTANA COMMUNITIES AND HIGHWAY SYSTEMS



The Economic Corridor Area
(Bozeman to Three Forks)

Figure 3

THE ECONOMIC CORRIDOR AREA COMMUNITIES AND TRANSPORTATION SYSTEMS



The economic corridor was originally defined to include the communities and rural areas most likely to be affected by the new highway. Local geography and population distribution established the boundaries of the area. The new Interstate 90 highway proceeds from Bozeman across the Gallatin Valley to Three Forks. With the Bridger Mountain Range and its foothills a few miles to the northeast and some rolling hills and plateaus to the southwest, the population is concentrated on the valley floor. The corridor includes the communities and rural population in the valley along the new highway. As one proceeds west of Bozeman, the mountains become more distant from the highway. If residents of a particular area were likely to use Interstate 90 to drive to Bozeman, their area was included in the corridor. Thus, a section was either included or excluded on the basis of alternative highway routes. Where Bozeman is accessible by an all-weather route other than Interstate 90, the distances by each route were compared. If the distance to Bozeman by the new highway (or the old U.S. 10) was shorter, the section was included. Completion of the after phase of the study indicated that communities to the south of I-90 were largely unaffected by the highway, as was Trident to the north; these towns could have been excluded.

Corridor Area Communities

As the corridor area is defined, Census of Population data are unavailable for either the area or all of its communities. However, the relative sizes of these communities can be indicated by using population estimates in the Rand McNally Commercial Atlas and Marketing Guide to supplement Census of Population data. Population data for the communities appear in table 1. Three general

Table 1

POPULATION ESTIMATES FOR THE STUDY AREA COMMUNITIES, 1960 AND 1970*

Community	Population	
	1960	1970
Bozeman	13,361[a]	18,670[a]
Three Forks	1,161[a]	1,188[a]
Belgrade	1,057[a]	1,307[a]
Manhattan	889[a]	816[a]
Churchill	*	250[b]
Logan	*	200[b]
Willow Creek	*	150[b]
Amsterdam	*	100[b]
Trident	*	100[b]

*Rand McNally population estimates are made at five year intervals or less. Population estimates shown in the 1970 column were released by Rand McNally in 1968. The estimates are assumed to represent 1970 population since no other estimates exist.

Sources: a. U. S. Department of Commerce, Bureau of the Census, 1970 Census of Population, Montana, Advance Report, Number PC(V1)-28, Table 2, page 4.

b. Rand McNally and Company, Rand McNally Commercial Atlas and Marketing Guide (1968 edition, Chicago), pp. 294-295. Population estimates were identical to the 1965 edition.

sizes of communities are present in the corridor. Bozeman is the largest with 18,670 persons. Belgrade, Manhattan, and Three Forks are similar in size with approximately 800 to 1,300 persons. The remaining towns--Amsterdam, Churchill, Logan, Trident, and Willow Creek--have fewer than 300 persons per community. The economic development of these communities will be discussed in the second section of this chapter.

Local Transportation Facilities

The basic transportation facilities in the corridor include highways, railroads, and a commercial airport. The facilities and their locations are shown in figure 3, page 4.3.

The highway system includes several paved secondary highways, approximately 30 miles of U.S. 10, and the 28.5 mile section of Interstate 90 incorporated in the study area. The secondary routes in the economic corridor provide access from U.S. 10 and Interstate 90 to the rural communities and area. U.S. 10 still carries highway traffic in Bozeman. Three Forks was bypassed in August, 1969, with a continuous section of I-90 from Bozeman to west of Butte. Where it parallels Interstate 90, U.S. 10 traffic is predominantly local and serves almost entirely as a frontage road.

The Manhattan to Three Forks portion of Interstate 90 was completed and opened to traffic in December, 1964. This section began just east of Manhattan, bypassed Manhattan, and continued to its terminus (as defined for the corridor study) near Three Forks. The Manhattan bypass was in effect until April, 1966, when traffic was rerouted through Manhattan because of highway construction. The traffic continued to use Manhattan's main street until the formal opening of this section of I-90. The entire 28.5 mile section of I-90 was completed and opened to traffic in October, 1966.

There are two railroads in the corridor area--the Burlington Northern (formerly Northern Pacific) and the Milwaukee Road. The Burlington Northern main lines run through Bozeman, Belgrade, Manhattan, Logan, Three Forks, Trident, and Willow Creek. In addition, a Burlington Northern branch line serves Amsterdam. The Milwaukee Road main line runs through Willow Creek and Three Forks; the Milwaukee branch line which runs through the Gallatin Valley serves Manhattan and Bozeman. All passenger service provided by the Burlington Northern within the corridor ended on May 1, 1971.

Gallatin Field, the area's commercial airport, is located just east of Belgrade. Northwest Airlines and Frontier Airlines provide regularly scheduled passenger service to the airport. Charter service is provided by Flight Line, Inc. and Gallatin Flying Service. Central Helicopters, Inc. is located east of Bozeman.

The Economic Development of the Study Area[4]

The nature of the local economies is illustrated by the distribution of employment in Gallatin County. As shown in table 2, p. 4.8, agriculture, retail trade, services (excluding education), education, and to a lesser extent, manufacturing provide the base for Gallatin County's economy. The latest census data

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[4] Historical information was obtained from Merrill G. Burlingame, Gallatin Century of Progress (Bozeman, Montana: Artcraft Printers, 1964).

Also see Robert G. Dunbar, "The Economic Development of the Gallatin Valley," Pacific Northwest Quarterly, October, 1956, pp. 117-123.

Table 2

DISTRIBUTION OF EMPLOYMENT BY INDUSTRY FOR GALLATIN COUNTY, 1960

Industry		Employment	Percent
Agriculture		1,439	15.4
Forestry and fisheries		54	0.6
Mining		21	0.2
Construction		498	5.3
Manufacturing		830	8.7
Furniture, lumber and wood products	248		
Primary and fabricated metals	12		
Machinery (including electrical)	12		
Other durable goods	216		
Food and kindred products	251		
Textile mill products	4		
Printing, publishing, and allied products	58		
Chemical and allied products	12		
Other nondurable goods	17		
Railroad and railway express service		180	1.9
Trucking service and warehousing		148	1.6
Other transportation		49	0.5
Communications		139	1.5
Utilities and sanitary services		91	1.0
Wholesale trade		277	3.0
Retail trade		1,599	17.1
Finance, insurance, and real estate		250	2.7
Services (excluding education)		1,575	16.8
Education:			
Public		1,467	15.7
Private		118	1.3
Public administration		444	4.7
Industry not reported		186	2.0
TOTAL		9,365	100.0

Source: U. S. Department of Commerce, Bureau of the Census, 1960 Census of the Population, Montana, General Social and Economic Characteristics, Table 85.

providing economic characteristics are from the year, 1960. In 1960, agriculture employed 15.4 percent of the labor force, retail trade had 17.1 percent, services with 16.8 percent, public education employed 15.7 percent, and manufacturing had 8.7 percent. In rapidly diminished. A limestone deposit near Trident is the only mineral deposit currently being exploited.

Both mining and agricultural production have influenced the development of the manufacturing industry. Early coal mining led to some processing, and later cement manufacturing and talc processing were introduced. The processing of crops, livestock and livestock products has given much impetus to manufacturing. When the farmers began to grow wheat and barley, milling and malting grew increasingly important. Mills could be found in virtually every valley town. Creameries appeared with the rising importance of dairy cattle. A pea cannery and a large brewery were constructed in Bozeman. However, the creameries, by and large, were unsuccessful and prohibition had an adverse effect on malting and brewing. Today, the brewery is gone, the pea cannery closed, and animal feed processing plants and grain elevators have replaced the flour mills.

The other area manufacturing activity which has fluctuated over time but still remains important is wood products processing. From the time when the railroads needed ties to the present, local sawmills have been economically significant. Currently, sawmills are located in Bozeman and Belgrade.

The activity of the various levels of government has also contributed to the economic development of the Gallatin Valley. The federal government was responsible for the establishment of Fort Ellis. The valley was later indirectly, but significantly, affected by the creation of Yellowstone National Park thirty miles south of Bozeman. The state government also contributed to the area's development through the location of Montana State University and the Agricultural Experiment Station in Bozeman. The selection of Bozeman as the county seat of the once vast Gallatin County undoubtedly contributed to its early development.

The interaction of these sectors and their fluctuations in importance are evident in the development and growth of the corridor area communities. Agriculture, mining, the railroads, manufacturing, and government activity have affected each of the communities in a different manner or degree. Table 3 shows the population increases in the four principal area communities since 1910. The factors just described account for many of the differences in these population changes.

Table 3

POPULATION OF THE FOUR PRINCIPAL COMMUNITIES, 1910-1970

Communities	1910	1920	1930	1940	1950	1960	1970
Bozeman	5,107	6,183	6,855	8,665	11,325	13,361	18,670
Belgrade	561	499	533	618	663	1,057	1,307
Manhattan	N.A.	591	501	646	716	889	816
Three Forks	674	1,071	884	876	1,114	1,161	1,188

Sources: U.S. Department of Commerce, Bureau of the Census, 1910-1960 Census of the Population, Montana, Number of the Inhabitants.

U.S. Department of Commerce, Bureau of the Census, 1970 Census of Population, Montana, Advance Report, Number PC(V1)-28, Table 2, page 4.

The largest and economically most important community in the Gallatin Valley is Bozeman. (See pages 4.13-4.16 for aerial photographs of the corridor area communities.) Shortly after the settlement of Bozeman, it was chosen as the county seat. Its agriculture, livestock and livestock products accounted for approximately 60 percent of gross farm income and crop sales accounted for the remainder.[5] The educational sector consists largely of employees of Montana State University and its related activities. Over 85 percent of the manufacturing industry's labor force are employed in the "furniture, lumber, and wood products," "other durable goods," and "food and kindred products" categories.

In the early development of the area, mining and government activity other than education were also important. Although agriculture has been the most important activity from the earliest settlements to the present, mining, government activity, and manufacturing have interacted to stimulate agriculture and to develop the Gallatin Valley.

The history of the valley's economic development begins with the gold discoveries made in the surrounding region in the mid-1800's. The subsequent need for food in the mining camps stimulated local agricultural development. Fort Ellis, established just east of Bozeman because of the Indian threat to farmers and miners, eventually supplemented the food demand of the mining camps. With the extension of rail service to the valley in 1883, it became possible to market agricultural products outside the immediate region. By this time, agriculture was firmly established as the area's most important industry.

Although the climate and water distribution in the Gallatin Valley have required some crop experimentation, wheat has been a mainstay of local agriculture since its introduction. The early development of irrigation systems contributed greatly to the success of wheat; the subsequent development of dry-land farming on the bench areas also greatly increased wheat production. The expansion of local milling facilities accompanied by the arrival of the Northern Pacific Railroad provided an increasing and expanded market for wheat. Agricultural experimentation proved that barley and oats were suitable crops for the area. The interest of eastern brewers in the valley's superior barley led to its successful cultivation until the Volstead Act of 1919 (the prohibition era). Attempts to grow sugar beets have failed and pea production had only temporary success.

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[5] U.S. Department of Commerce, Bureau of the Census, _1964 Census of Agriculture, Montana, Statistics for the State and Counties_, p. 253.

Livestock and related products currently account for more area income than crop production. After relatively unsuccessful attempts at large-scale horse raising, the local livestock producers turned to dairy herds and beef cattle production. Beef cattle production has proven to be the most successful aspect of the valley's livestock industry. Dairy products, hog and pig production, and sheep raising currently follow cattle production in importance.[6]

The only large-scale mining activity in the Gallatin Valley was the exploitation of some coal deposits east of Bozeman. Coal mining boomed in the area from the 1880's until shortly after 1900. Local mines were supplying coal to the Northern Pacific Railroad. When the railroad began to buy its coal from the Red Lodge and Bear Creek mines in 1906, local coal mining activity

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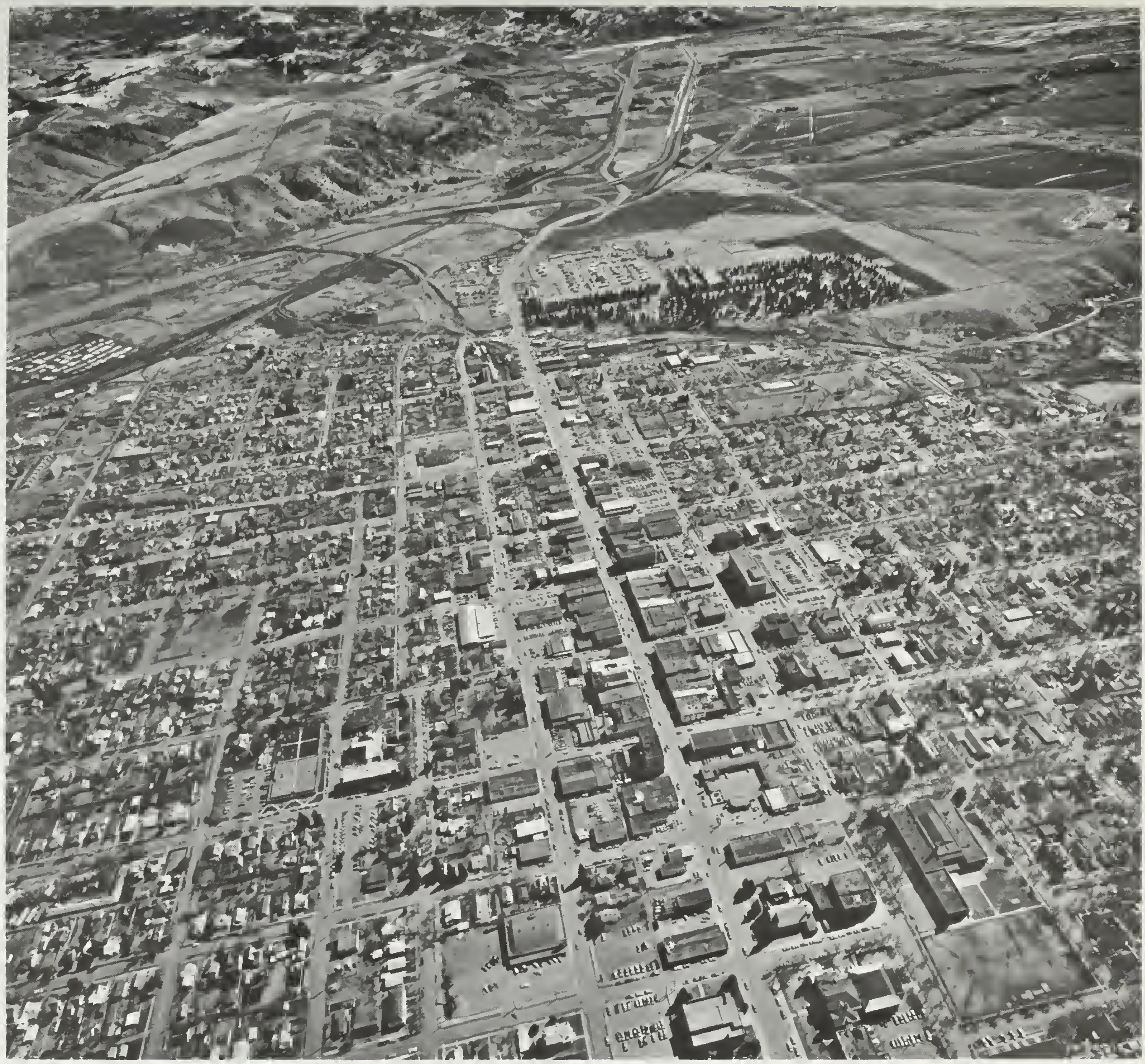
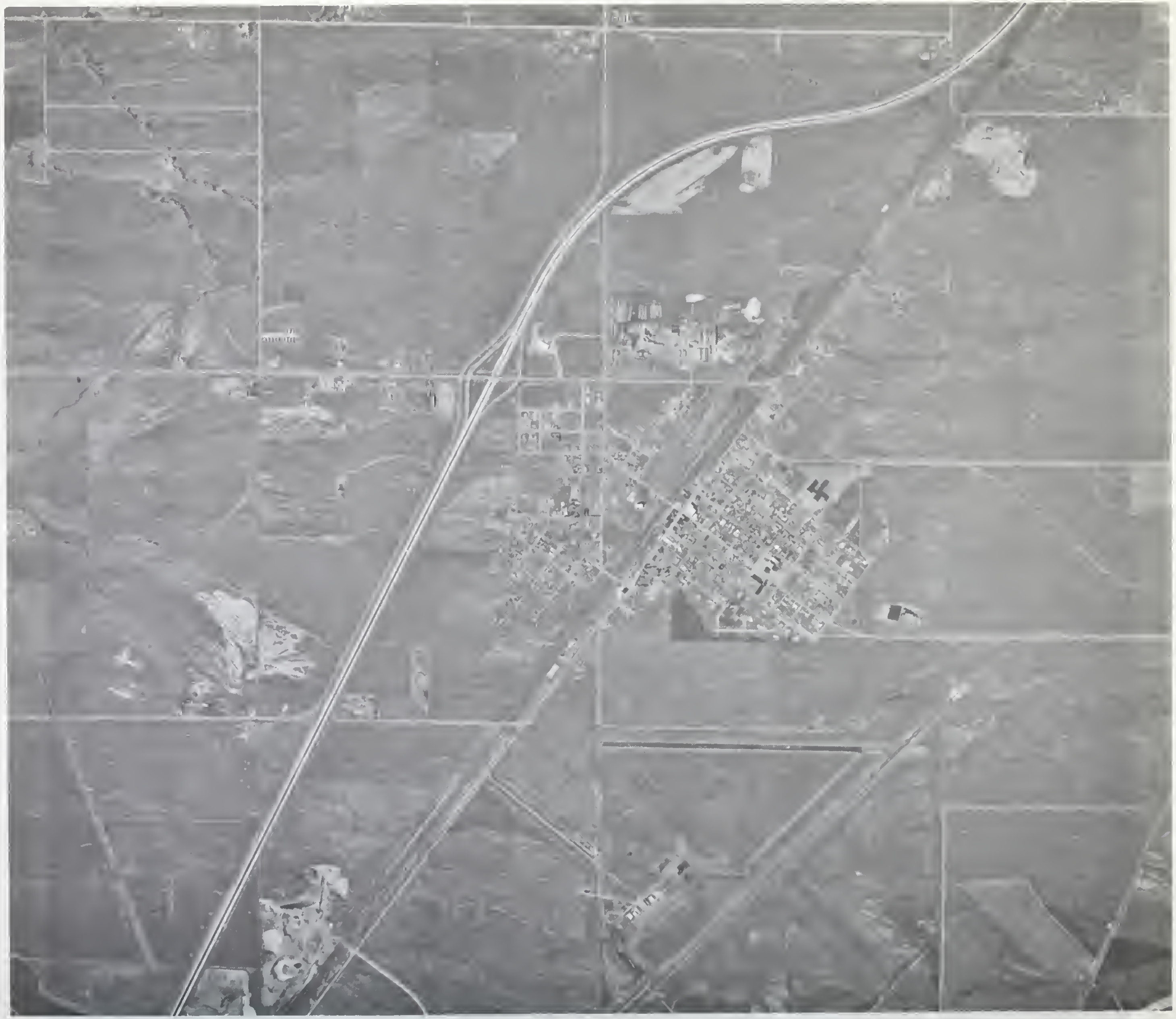
[6] *Ibid.*, pp. 253 and 283.

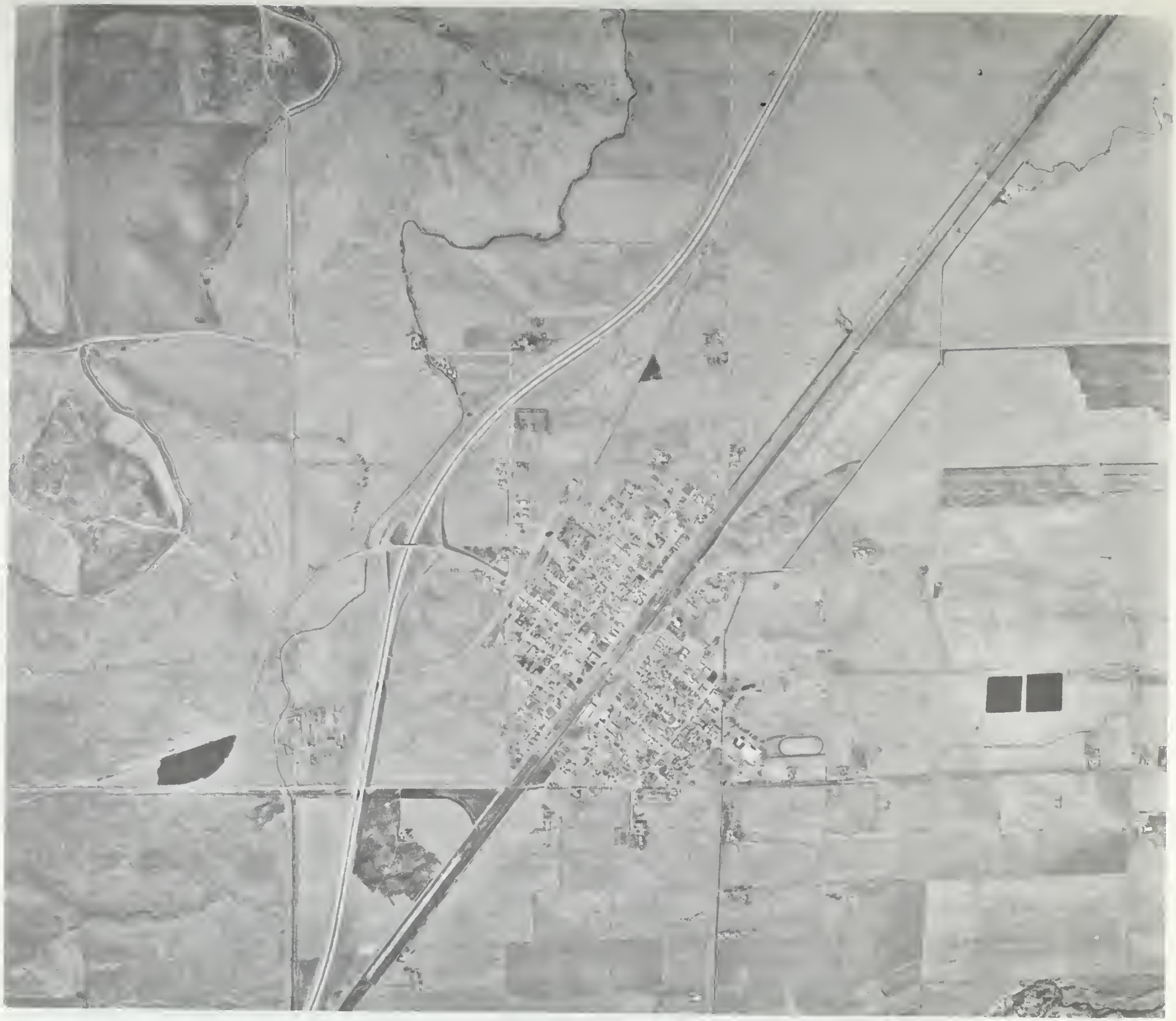


Aerial view of Bozeman, Montana, looking east.

Montana Highway Commission

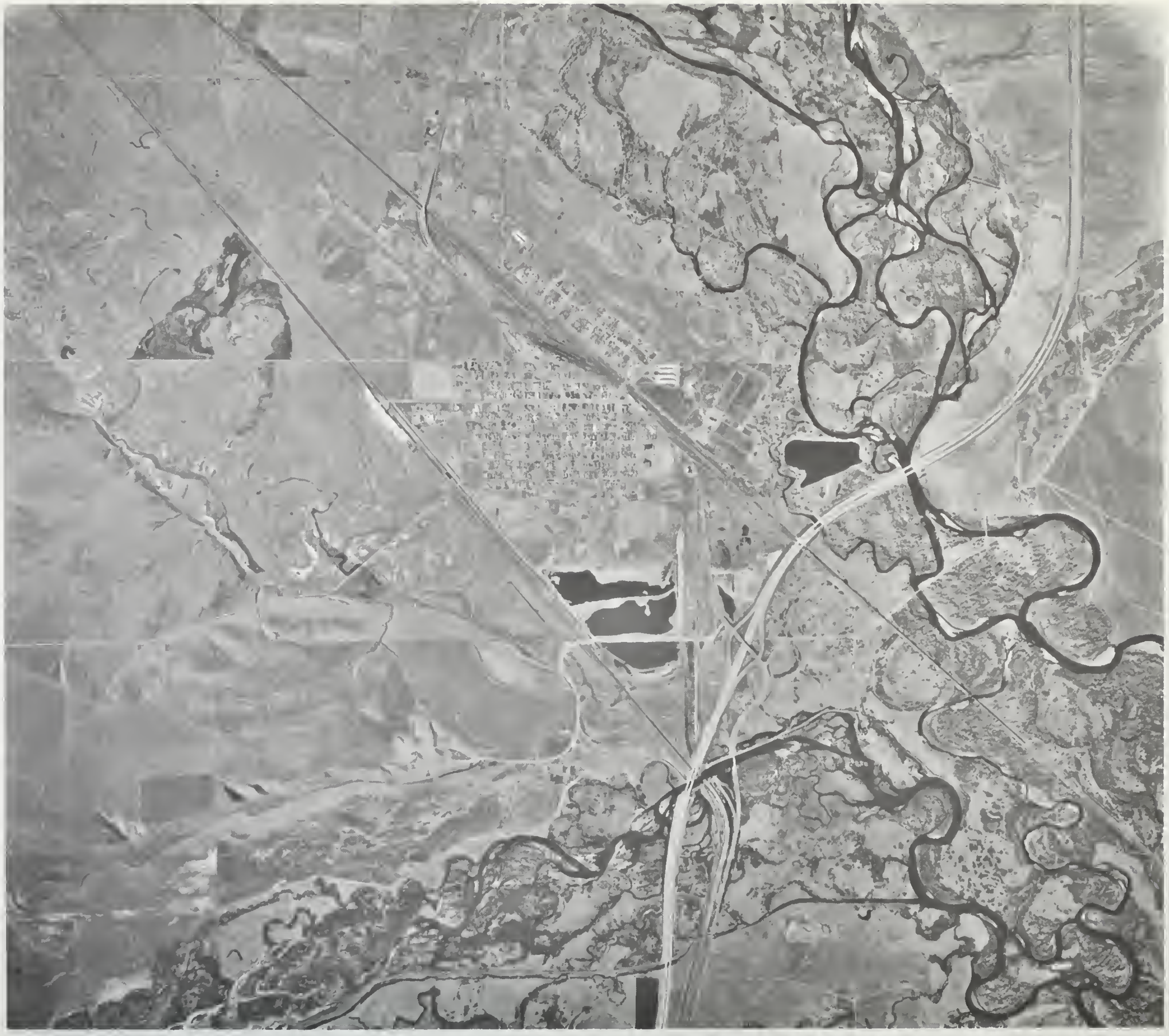


Aerial view of Belgrade, Montana.
Montana Highway Commission



Aerial view of Manhattan, Montana.

Montana Highway Commission



Aerial view of Three Forks, Montana.

Montana Highway Commission

service facilities developed so that it could serve a large agricultural area as well as provide a comfortable stopping and equipping place for traders, miners, trappers, and travelers. Fort Ellis, constructed to maintain Bozeman's safety, contributed significantly to Bozeman's market for goods and services. The city also prospered during the coal mining period because of the extensive mining activity just east of the city. The booming agricultural production of the area was directly responsible for the locating of a large brewery, pea cannery, and several flour mills in Bozeman. Not to be forgotten is the economic influence of Montana State University and Agricultural Experiment Station. These institutions were established in Bozeman in 1893. In the fall of 1966, the University had an enrollment of 6,320 students. Enrollment grew to approximately 8,000 students in the fall of 1969.

Belgrade, the second largest of the corridor area towns, was developed by a local businessman who hoped to make it the center of the valley activity. Before railroad branch lines were built over the Gallatin Valley, Belgrade's location next to the Northern Pacific Railroad made it one of the largest grain receiving centers in the world. Its large elevator capacity and favorable location attracted farmers from all over the valley, and the city offered an abundance of commercial services to the surrounding residents. By 1902, the town had a sizeable business district, two flour mills, and five grain elevators. Eventually, loss of its nearly exclusive access to railway loading of grain and the improved access to Bozeman slowed the town's growth. The recent large increase in Belgrade's population was caused by the location there of a sawmill in 1953 and the continuing increase in persons living in Belgrade but commuting to Bozeman to work.

Three Forks, the next largest of the study communities, owes much of its early development to its position as a crossroads in the valley. A series of toll bridges across the rivers were maintained near the present townsite. Three Forks' development was further enhanced by the Milwaukee Railroad's decision to locate a division point there. These advantages were later lost when the railroad removed its division point facilities and the local transportation system was improved. Surrounding agricultural activity and some mineral processing have kept Three Forks a stable, if slow-growing community.

Manhattan moved several times before it was finally established on its present site as a permanent community. With the arrival of the railroad, the community moved for the last time to its present location near the Northern Pacific tracks. The town received its name in 1891 from New York businessmen who financed the development of the town by establishing the Manhattan Malting Company there. The Company processed the superior malting barley which could be grown around Manhattan and distributed it to eastern and western brewers. The Malting Company was also involved in other local projects such as a barley straw paper mill, which soon failed because of the poor quality paper it produced. The advent of prohibition in 1919 brought a halt to the malting activity and the growth it brought in Manhattan's agricultural and transportation activities.

The remainder of the communities in the study area are small and owe their development to individual circumstances. Trident, for example, began with the discovery of rich limestone deposits in the vicinity. A cement processing company was formed, and its successor is still operating in the community. Only one general store exists in Trident. Logan began as a stage station; later a round house and shop facilities for the railroad were located there. Two firms, one a garage (body shop) and the other a bar, are operating today. Willow Creek was established during a mining boom in nearby Norwegian Gulch. Of six establishments located in Willow Creek in 1965 and included in the survey, only two businesses remain viable today.

Amsterdam and Churchill are essentially one community, owing existence to the Holland Settlement which was promoted by the Manhattan Malting Company. The Hollanders were encouraged to migrate to grow the malting barley crops for the Company. Because of language barriers and religious unity, these immigrants at the turn of the century established their own community, complete with church and school. These agricultural communities still appear prosperous.

The previous descriptions show that the Gallatin Valley and its communities are dependent on the agricultural and governmental sectors. The cause-effect relationships between these sectors and economic growth often have been illustrated and there is little reason to expect this relationship to change significantly in the near future. Thus, completion of Interstate 90 most likely will not affect the general economic activity as much as fluctuations in crop and livestock production. However, the new highway does affect certain segments of the local economies of the intermediate-sized communities. These effects are discussed in the following chapter.

CHAPTER FIVE

THE FINDINGS OF RESEARCH

The corridor area is in a state of economic change marked by a series of transitional courses which, at times, appear to be inconsistent. Each of the four major communities is unique, and the impact of Interstate 90 varies significantly from town to town. The evidence presented in the following pages indicates that in regard to its impact on the total economy of a community in the short to intermediate time period, the new highway has had no significant effect as a powerful stimulus to business nor a major deterrent.

Few towns are established on a random basis. Rather, they fulfill various needs of their inhabitants. The economic variables present within a town certainly affect the quality of living, but they are by no means the only factors necessary for creating full and meaningful life for residents. Thus, the reader is forewarned not to take economic variables out of the context of the entire spectrum of social life within a community. The researchers have not made value judgments about Interstate 90 other than concentrating upon its economic effects.

In presenting data, this study will cite the findings for each of the economic variables rather than by community. Additional comments about interrelated variables are made where appropriate. We have used this particular format because it reduces duplication

Interstate 90 near Logan, Montana.

Montana Highway Commission

in the presentation and frequently two or more variables are involved in evaluating the significance of a given economic indicator.

The Major Economic Variables

Gross Receipts

During the period from 1965 through 1969, gross receipts, in current dollars, of firms located in the corridor area increased by an estimated $22 million or 40.0 percent.[7] As a group, sales of highway-oriented firms increased 27.3 percent while sales of nonhighway firms rose 42.2 percent. Three Forks and Manhattan had the largest increases in sales of all highway firms. They showed gains of 48.1 and 43.9 percent, respectively. Belgrade had the smallest increase in this category, at 9.0 percent. For nonhighway-oriented firms, Bozeman led with an increase of 45.5 percent. Three Forks had the smallest increase at 9.6 percent. (For a full breakdown, see table 4, page 5.4, and figures 4 and 5, pages, 5.5 and 5.6.)[8]

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[7] All gross receipts data represent estimates. The method used to arrive at the estimates is presented in Appendix A, pages 7.15-7.20. Furthermore, gross receipts are for firms in retail trade, finance, insurance, real estate, and services.

[8] Tables and figures used to present the various economic variables include only the four largest communities in the corridor. (Tables provide a consolidated category for all of the smaller communities.) The overall size of these economies is very small relative to the total for the entire corridor, and it is believed that Interstate 90 has had only a nominal effect on the smaller communities through 1969. Also, inclusion of the four smaller communities in the figures would make them more complicated to present and interpret what has been presented.

Most tables and figures use 1965 as the base year, which equals 100 percent. By using this technique, subsequent comparisons show changes more readily.

Table 4

GROSS RECEIPTS, SELECTED FIRMS, CORRIDOR AREA, 1965-1969 (Millions of Dollars)

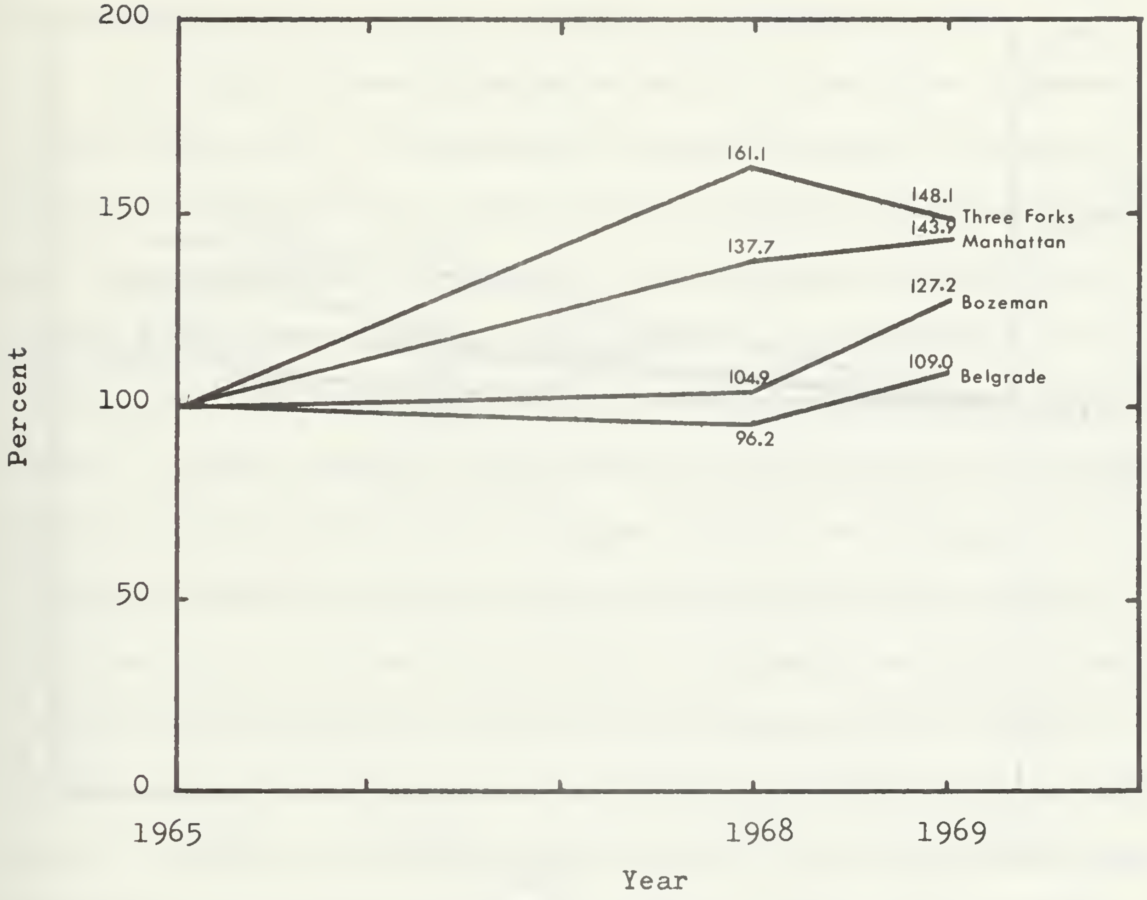
Town and Business Orientation		Gross Receipts 1965 Receipts	1965 Percent	1968 Receipts	1968 Percent	1969 Receipts	1969 Percent
Bozeman	- Highway	$ 7,810	100.0	$ 8,191	104.9	9,931	127.2
	- Nonhighway	39,928	100.0	54,347	136.1	58,107	145.5
Belgrade	- Highway	1,021	100.0	982	96.2	1,113	109.0
	- Nonhighway	740	100.0	840	113.5	884	119.5
Manhattan	- Highway	187	100.0	257	137.7	269	143.9
	- Nonhighway	1,836	100.0	2,134	116.3	2,441	133.0
Three Forks	- Highway	803	100.0	1,293	161.1	1,189	148.1
	- Nonhighway	1,959	100.0	2,020	103.1	2,148	109.6
Other Locations	- Highway	*	*	*	*	*	*
	- Nonhighway	1,754	100.0	2,328	132.6	2,120	120.8
TOTAL	- Highway	$ 9,821	100.0	$10,723	109.2	$12,502	127.3
	- Nonhighway	46,217	100.0	61,669	133.4	65,700	142.2
TOTAL (Highway and Nonhighway)		$56,038	100.0	$72,392	129.2	$78,202	140.0

Source: Bureau of Business and Economic Research, University of Montana, Missoula.

*Insufficient data.

Figure 4

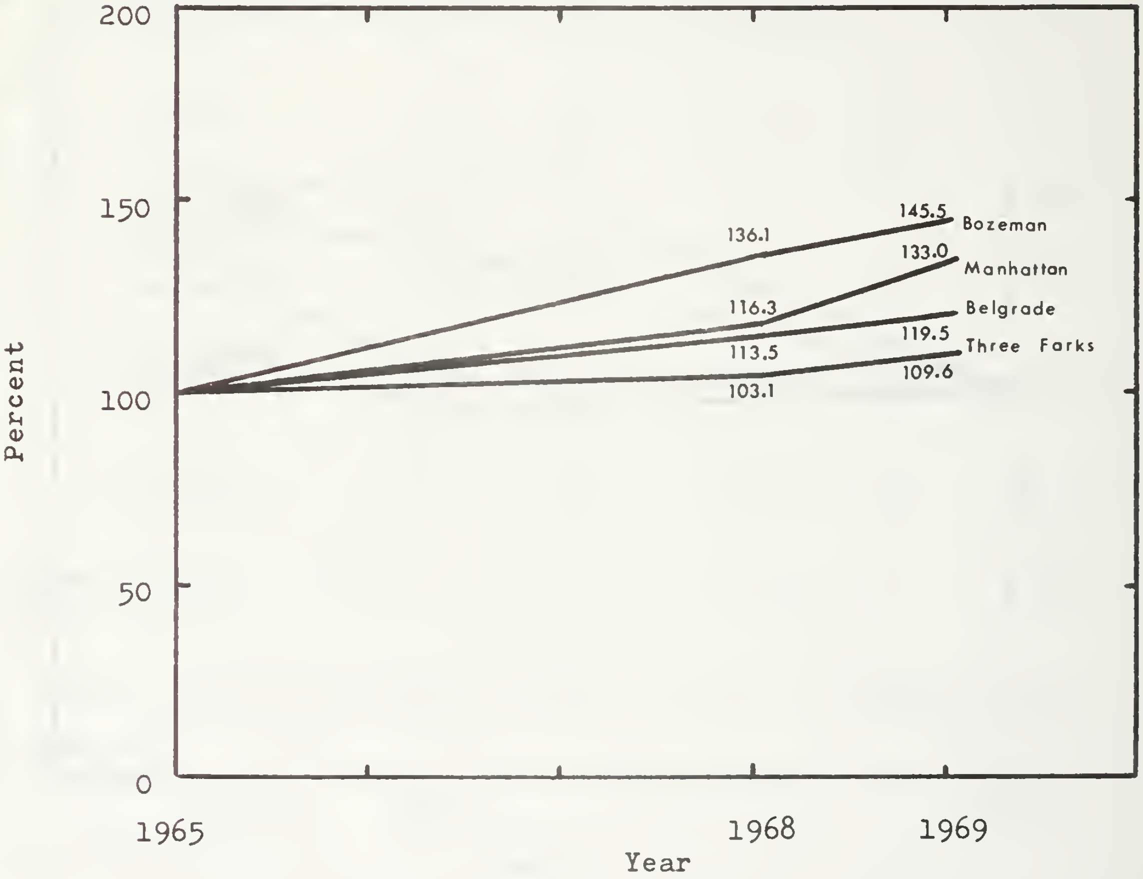
PERCENTAGE CHANGE IN GROSS RECEIPTS OF SELECTED HIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA, 1965-1969



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Figure 5

PERCENTAGE CHANGE IN GROSS RECEIPTS OF SELECTED NONHIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA, 1965-1969



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Although Bozeman and Belgrade indicated significantly higher growth rates in the nonhighway sector as compared to the highway group of firms, the reverse was true for Manhattan and Three Forks. The relatively small increase in the nonhighway segment for Three Forks may be attributed to the town's stable population over the last several years.

The large increase in gross sales for Three Forks' highway firms through 1968, a very modest increase in gross receipts of Bozeman's highway firms, and the actual decline in sales of highway firms in Belgrade may indicate that Belgrade did incur the bypass effect because many highway travelers transferred service station and other highway-oriented purchases to Bozeman and Three Forks. In 1969, highway sales increased considerably in Bozeman; part of the explanation for the expansion was an increase in the number of highway users and the opening of several new service stations during the period 1968-1969. Belgrade, in 1969, appeared to be recovering from the effects of the bypass on its highway firms. Three Forks' highway sales declined somewhat from the 1968 level in 1969. A potential explanation of the decline is the completion of highway projects north of Three Forks, thus allowing travelers coming from the north to partially bypass Three Forks.

The increase in dollar sales volumes of the communities was caused by two factors: (1) the actual increase in volumes of products sold and (2) the increase in prices paid for goods and services. With the exception of gasoline gallonage, physical volumes of products were not measured in this study. An increase in the area's population (see pages 4.5 and 4.12) and the increase in highway travel imply an expected increase in physical volume of products sold. Furthermore, as will be shown later in the chapter, gasoline gallonage increased 32.9 percent from 1965 through 1969. A portion of the increase in gross receipts is attributable to increased volume of products sold.

We do not know the amount of increase owing to inflation which accurately reflects the corridor area economy. In the interval from 1965 through 1969, the United States consumer price index, including all consumer goods and services, increased approximately 15 percent. Although various techniques may be used to adjust current prices to constant dollars, the deflators applied to 1968 and 1969 gross receipts data represented a combination of all consumer products rather than separate--but often rather broad--product categories. (Table 5, page 5.9, and figures 6 and 7, pages 5.10 and 5.11, present deflated gross receipts of firms in the economic corridor.)

Using constant dollars for comparisons, Three Forks had the largest gross receipts percentage increase of highway-related firms. During the period from 1965 through 1969, gross receipts for all highway-oriented firms increased 9.6 percent in constant dollars. For Three Forks, they increased 27.4 percent. Belgrade had a decline of 6.2 percent during the same period. For nonhighway firms, the constant dollar increase in sales was 22.3 percent. Bozeman had the largest increase, 25.2 percent, while Three Forks had a decline of 5.6 percent. A large part of the increase for Bozeman was probably due to its rapidly increasing population. The

Table 5

GROSS RECEIPTS IN CONSTANT DOLLARS (1965), SELECTED FIRMS, CORRIDOR AREA, 1965-1969
(In Millions of Dollars)

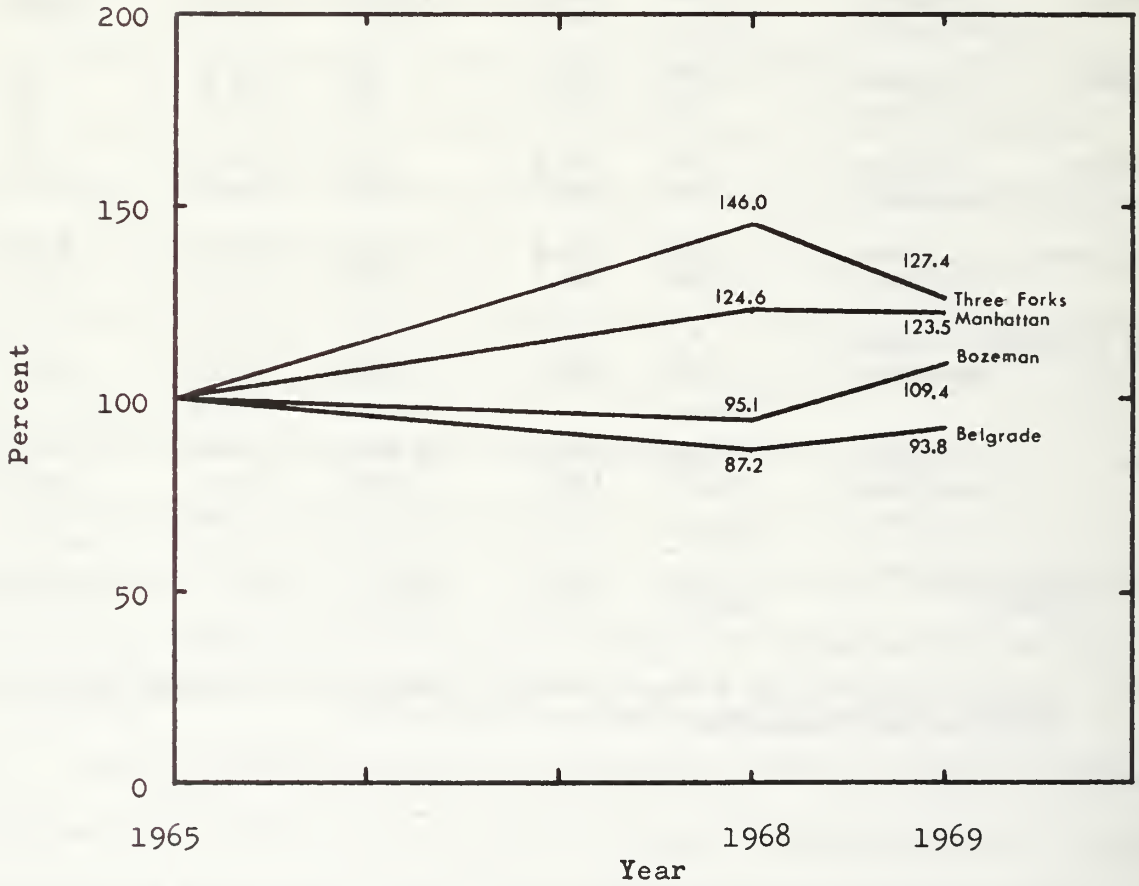
Town and Business Orientation		Gross Receipts 1965 Receipts	1965 Percent	1968 Receipts	1968 Percent	1969 Receipts	1969 Percent
Bozeman	- Highway	$ 7,810	100.0	$ 7,427	95.1	$ 8,546	109.4
	- Nonhighway	39,928	100.0	49,272	123.4	50,006	125.2
Belgrade	- Highway	1,021	100.0	890	87.2	958	93.8
	- Nonhighway	740	100.0	762	103.0	761	102.8
Manhattan	- Highway	187	100.0	233	124.6	231	123.5
	- Nonhighway	1,836	100.0	1,935	105.4	2,101	114.4
Three Forks	- Highway	803	100.0	1,172	146.0	1,023	127.4
	- Nonhighway	1,959	100.0	1,831	93.5	1,849	94.4
Other Locations	- Highway	*	*	*	*	*	*
	- Nonhighway	1,754	100.0	2,111	120.4	1,824	104.0
TOTAL	- Highway	$ 9,821	100.0	$ 9,722	99.0	$10,759	109.6
	- Nonhighway	46,217	100.0	55,910	121.0	56,540	122.3
TOTAL (Highway and Nonhighway)		$56,038	100.0	$65,632	117.1	$67,299	120.1

Source: Bureau of Business and Economic Research, University of Montana, Missoula, and Federal Reserve Bulletin, (April, 1971), A66.

*Insufficient data.

Figure 6

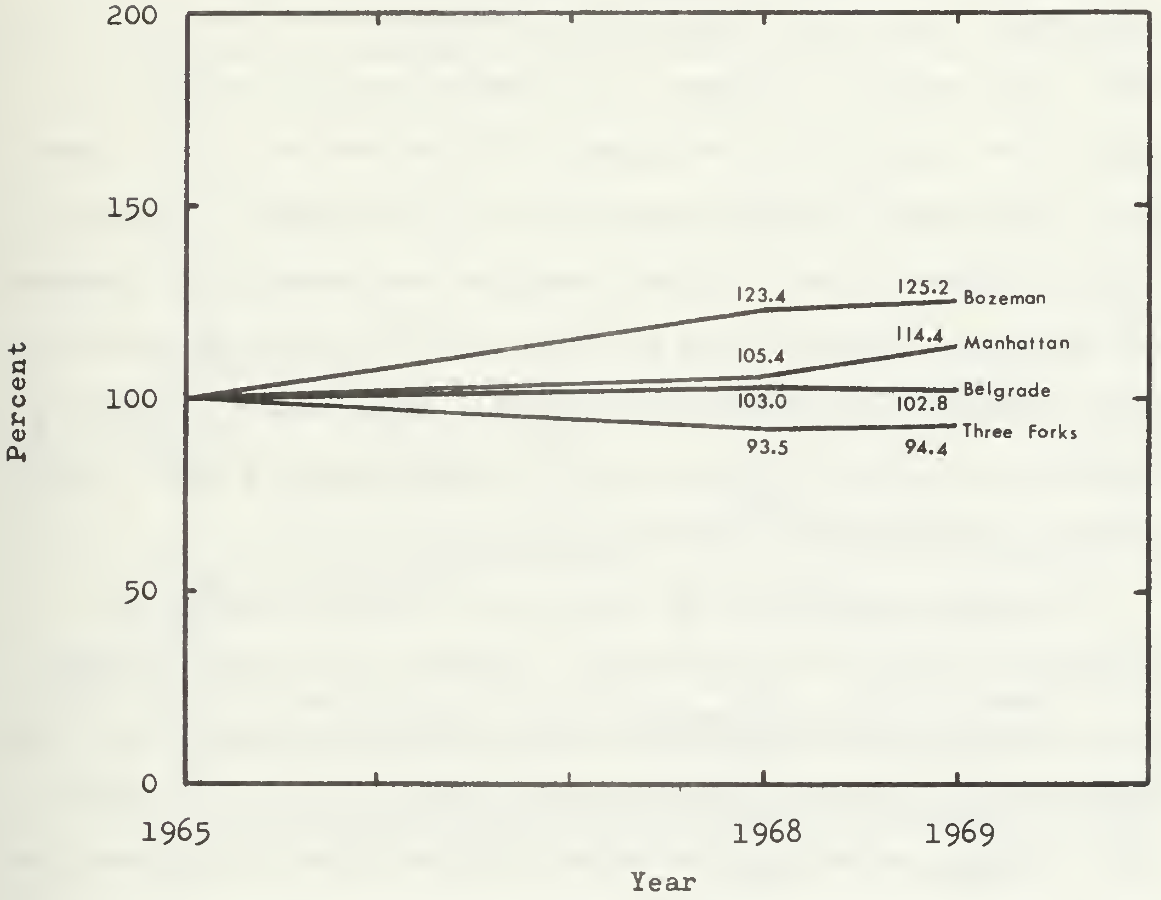
PERCENTAGE CHANGE IN GROSS RECEIPTS OF SELECTED HIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA, 1965 DOLLARS, 1965-1969



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Figure 7

PERCENTAGE CHANGE IN GROSS RECEIPTS OF SELECTED NONHIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA, 1965 DOLLARS, 1965-1969



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

deflator may have overstated the decline for Three Forks. Although, the method used for deflating gross receipts was arbitrary, without price series specifically developed for the corridor area during this period, any other technique would also be discretionary.

The distribution of gross receipts between the highway and nonhighway firms varied considerably among the four towns. In 1969, the economy of Belgrade, for example, had 55.7 percent of total gross receipts in the highway-oriented sector. In the same year, the highway category accounted for 35.6 percent of gross receipts in Three Forks. For the remaining two communities, Bozeman and Manhattan, highway firms had 14.6 and 9.9 percent of gross receipts, respectively. Thus, the relative importance of highway traffic and sales to highway users is significantly greater for Belgrade and Manhattan. (See figure 8, page 5.13.)

The bypass effect may be seen in the relative decline of Belgrade's highway sector business. However, the town recovered part of this decline from 1968 to 1969. Three Forks increased its highway business share significantly during the period of 1965-1969. Highway sales to total sales increased from 29.1 percent in 1965 to 39.0 percent in 1968. One may notice a major difference in the orientation of the economies of Belgrade and Manhattan by looking at the relative share highway businesses comprise of total gross receipts.[9]

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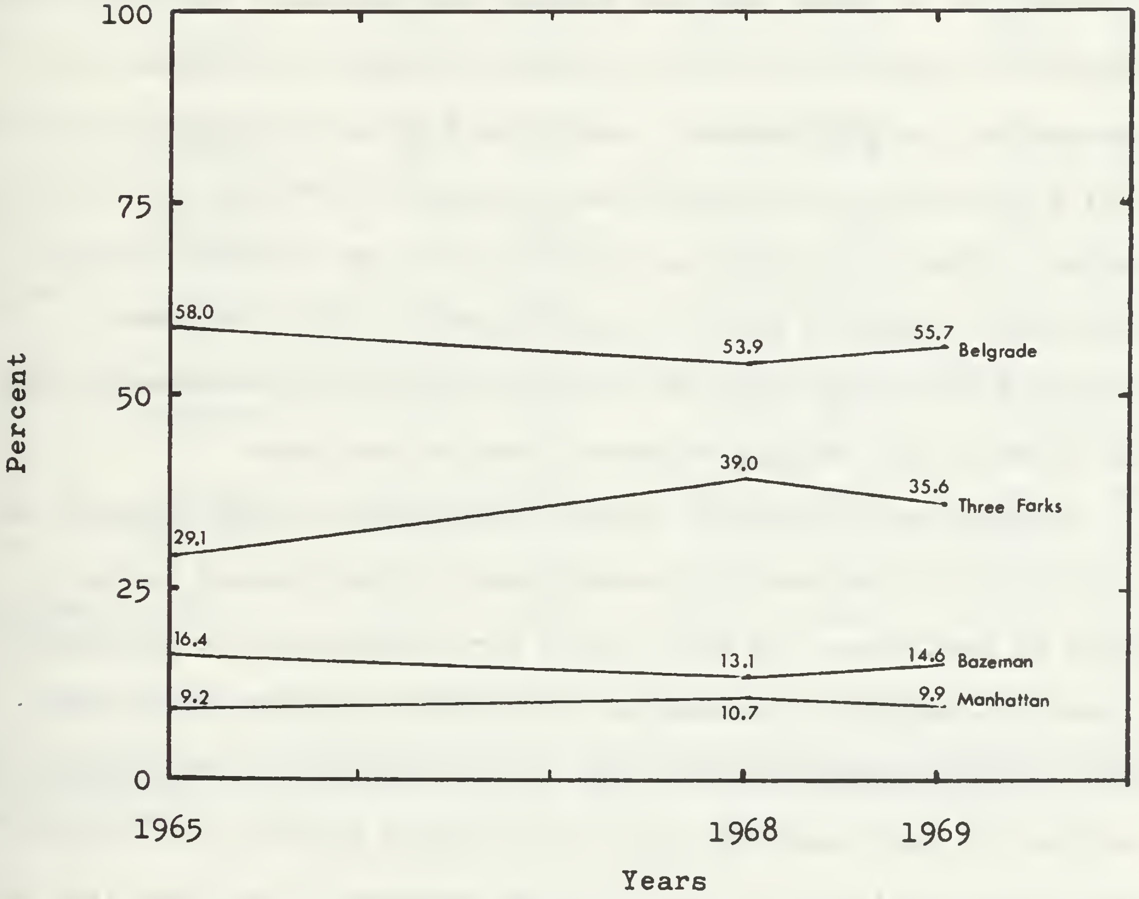
[9] For additional information about changes in the percentage distribution of firms in the corridor as grouped by the Standard Industrial Classification, see Appendix B, pages 8.2-8.6. The series of five tables provides changes for the corridor as an entity and individual community changes.

Figure 8

GROSS RECEIPTS OF HIGHWAY-ORIENTED FIRMS AS A PERCENT OF TOTAL GROSS RECEIPTS, CORRIDOR AREA TOWNS, 1965-1969



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Number of Employees

Employment in the corridor area increased 8.5 percent from 1965 through 1969. (See table 6, page 5.15, and figures 9 and 10, pages 5.16 and 5.17.) The largest employment accretion was in the highway business sector. These data appear inconsistent with the distribution of gross receipts between the two major business categories, but almost all of the increase in employment occurred in Bozeman and, within Bozeman itself, the highway group increased 23.9 percent while the nonhighway businesses increased only 4.6 percent. This distortion is illustrated by one highway-oriented firm which commenced operation in Bozeman in 1968. It alone accounted for one-half of the increase in employment between 1968 and 1969 for all highway-oriented firms in that town.

The amount of economic change taking place in the corridor is illustrated in the decline in employment of the highway sector firms in Manhattan. In 1965, seven firms comprised the highway-oriented category of businesses. In 1969, one of the firms had gone out of business (with a loss in employment of five persons) and four of the remaining five firms changed ownership. In 1970, one of the remaining two also changed ownership. Only one firm of the original seven had not changed ownership or gone out of business. The impact appeared greatest in the lodging area. While employment declined, total sales of highway firms increased an estimated 43.9 percent from 1965 through 1969.

The decline in both highway and nonhighway business employment in the "other locations" category (which is a summary of all of the very small communities) is largely attributable to the general

Table 6

NUMBER OF EMPLOYEES, CORRIDOR AREA, 1965-1969

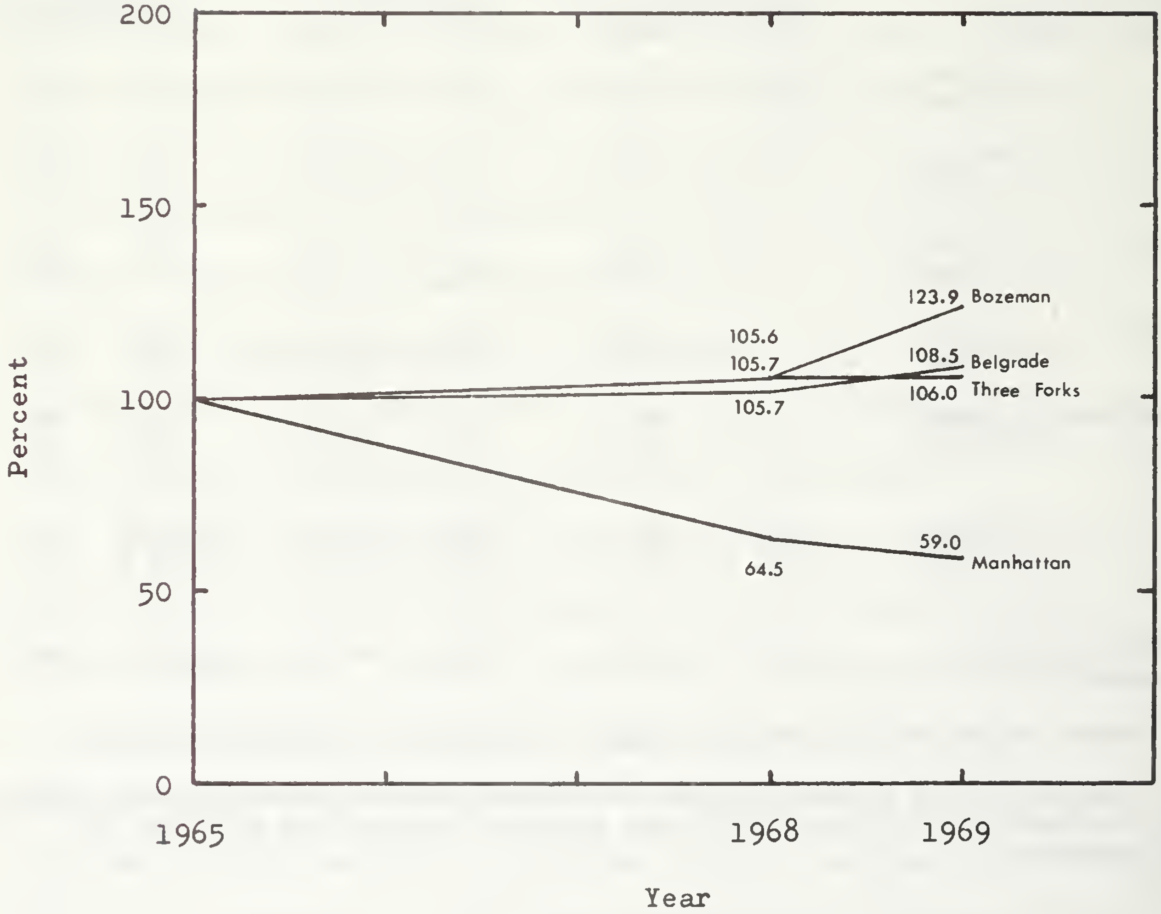
Town and Business Orientation		Employees*					
		1965		1968		1969	
		Number	Percent	Number	Percent	Number	Percent
Bozeman	- Highway	535.2	100.0	565.3	105.6	663.3	123.9
	- Nonhighway	1,652.8	100.0	1,657.7	100.3	1,728.5	104.6
Belgrade	- Highway	31.8	100.0	32.5	102.2	34.5	108.5
	- Nonhighway	39.6	100.0	43.5	109.8	50.0	126.3
Manhattan	- Highway	18.3	100.0	11.8	64.5	10.8	59.0
	- Nonhighway	71.4	100.0	69.6	97.5	71.7	100.4
Three Forks	- Highway	72.0	100.0	76.1	105.7	76.3	106.0
	- Nonhighway	67.9	100.0	75.5	111.2	77.5	114.1
Other Locations	- Highway	4.5	100.0	3.0	66.7	3.0	66.7
	- Nonhighway	44.4	100.0	39.2	88.3	39.2	88.3
Total	- Highway	661.8	100.0	688.7	104.1	787.9	119.1
	- Nonhighway	1,876.1	100.0	1,885.5	100.5	1,966.9	104.8
TOTAL (Highway and Non-highway)		2,537.9	100.0	2,574.2	101.4	2,754.8	108.5

Source: Bureau of Business and Economic Research, University of Montana, Missoula.

*Number of employees also includes proprietors and immediate families employed or working in family businesses. Fractions of full-time employment derived from part-time and seasonal employees.

Figure 9

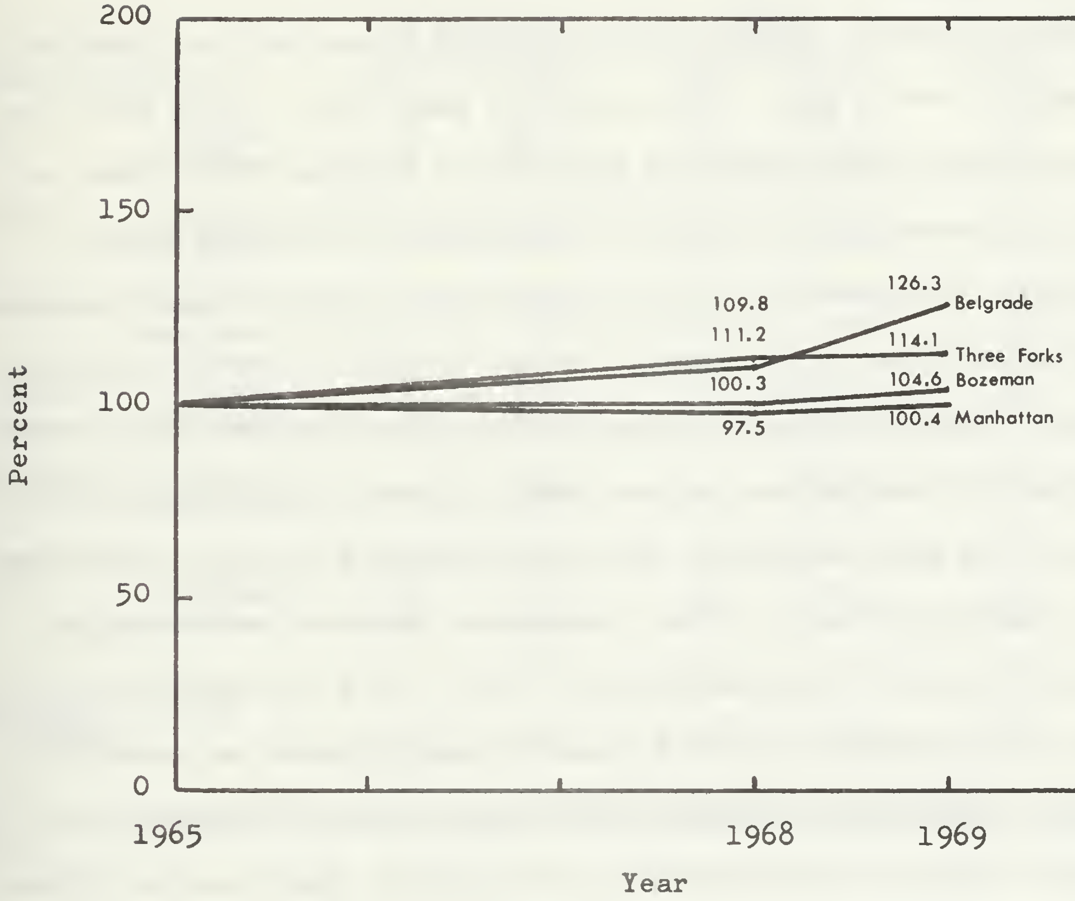
PERCENTAGE CHANGE IN EMPLOYMENT OF SELECTED HIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA, 1965-1969



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Figure 10

PERCENTAGE CHANGE IN EMPLOYMENT OF SELECTED NONHIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA, 1965-1969



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

decline in business activity in Willow Creek. A large implement and hardware company, also, was in the process of moving from Amsterdam to a frontage road by Interstate 90 near Belgrade during 1970; the effects of this will become apparent in 1971.

Number of Firms

The number of highway and nonhighway firms declined from 552 in 1965 to 544 in 1969. (See table 7, page 5.19.) When firms included in the 1965 survey had gone out of business before the end of 1969, interviewers attempted to determine the causes where possible. In almost all cases where reasons could be ascertained, Interstate 90 was not a causal factor. Instead, a broad spectrum of other factors appear responsible including fire and other forms of property destruction; or, retirement, disabilities, or death of owners. In most instances, those firms which had ceased operations were relatively small. Other businesses appeared to be marginal operations before the completion of I-90. In a few cases, the number of firms was reduced because of acquisitions and consolidations. For example, Theatre Operators, Inc., of Bozeman was formed in 1967 and consolidated three Bozeman theatres--the Ellen, Rialto, and Starlite--which were treated as separate firms in the 1965 survey. Thus, the actual number of establishments would be greater than the number of firms.

In Bozeman, the number of firms declined by six. A reduction of two firms occurred in the remaining communities. Although not included in the report, businesses starting operations in 1970 were, nevertheless, interviewed. Twenty-four new retail and

Table 7

CHANGES IN NUMBERS OF SELECTED FIRMS, CORRIDOR AREA, 1965-1969

Towns and Business Orientation		Firms					
		1965		1968		1969	
		Firms	Percent	Firms	Percent	Firms	Percent
Bozeman	- Highway	78	100.0	79	101.3	83	106.4
	- Nonhighway	338	100.0	320	94.7	327	96.7
Belgrade	- Highway	12	100.0	12	100.0	12	100.0
	- Nonhighway	19	100.0	15	78.9	17	89.5
Manhattan	- Highway	7	100.0	6	85.7	6	85.7
	- Nonhighway	27	100.0	26	96.3	27	100.0
Three Forks	- Highway	23	100.0	23	100.0	23	100.0
	- Nonhighway	32	100.0	33	103.1	34	106.3
Other Locations	- Highway	3	100.0	3	100.0	3	100.0
	- Nonhighway	13	100.0	12	92.3	12	92.3
Total	- Highway	123	100.0	123	100.0	127	103.3
	- Nonhighway	429	100.0	406	94.6	417	97.2
TOTAL (Highway and Nonhighway)		552	100.0	529	95.8	544	98.6

Source: Bureau of Business and Economic Research, University of Montana, Missoula.

service firms began operation in Bozeman in 1970. Two new firms also started business in Belgrade during the same year. Many of the new firms in Bozeman were connected with a planned shopping center, which, recently opened. The 24 firms in Bozeman employed, on a full-time basis, 89.8 persons or an average of 3.7 persons per establishment. Of the 24 new firms, four were highway-oriented and employed 20.8 persons.

Lodging Units and Gasoline Pumps

The total number of lodging units in the corridor decreased 2.5 percent from 1965 through 1969. (See table 8, page 5.21.) The decline represented 21 fewer units. The number of firms providing lodging also declined--from 33 to 28--during the same period. The average number of units per lodging firm was 25.2 in 1965. By 1969, the average was 28.9 or an increase of 3.7 units (14.7 percent) per firm.

The reduction of lodging firms was greatest in Bozeman, with three less. Manhattan and Three Forks each lost one firm. Bozeman was the only town to increase the total number of lodging units. Several Bozeman firms converted to boarding houses or apartments and were not tabulated in the hotel/motel category thereafter. Bozeman's major source of increased units was the opening of a new 120-unit Holiday Inn. Belgrade had little change in the number of lodging units. Manhattan lost one-half of its lodging units--12 out of 24--through the closing of one tourist court. Three Forks sustained the greatest decline of any corridor town. It went from 135 units in 1965 to 91 in 1968. The number declined further to 78

Table 8

LODGING UNITS AS A PERCENT OF
1965 BASE YEAR, CORRIDOR AREA, 1965-1969

	Lodging Units					
	1965		1968		1969	
Town	Number	Percent	Number	Percent	Number	Percent
Bozeman	626	100.0	596	95.2	675	107.8
Belgrade	48	100.0	47	97.9	47	97.9
Manhattan	24	100.0	12	50.0	12	50.0
Three Forks	135	100.0	91	67.4	78	57.8
AVERAGE	833	100.0	746	89.6	812	97.5

Source: Bureau of Business and Economic Research, University of Montana, Missoula.

in 1969. The decrease resulted solely from removal of units used as tourist lodging facilities and their conversion to either apartments or boarding houses. Four of the seven firms in Three Forks converted only a portion of their lodging units to longer rental periods while one firm made a complete conversion and was, therefore, not counted in 1968 and 1969. It is not known whether the conversions resulted from deterioration of the lodging facilities, increased demand for longer-term rental units, or some other factor(s). Interstate 90 is not believed to have been a major causal agent in the decline in the number of lodging units since various firms, according to the 1965 interviewers' reports, had appeared to be rundown and marginal operations at that time.

The number of corridor service stations' gasoline pumps increased by 4.2 percent from 1965 through 1969. (See table 9, page 5.23.) Belgrade gained two pumps, while Manhattan lost one, and Three Forks declined by two. The number of service station firms increased from 45 in 1965 to 50 (11.1 percent) in 1969. Bozeman had 33 service station firms in 1965; it had 38 in 1969. Belgrade had four firms in 1965 and lost one station by 1968. Manhattan did not change; its single station continued operation over the study years; the six stations in Three Forks also remained unchanged.

The total number of service station firms in the corridor increased 11.1 percent. Gasoline gallonage sales rose 32.9 percent during the period while the average gallonage pumped per station increased 19.6 percent.

Gasoline pump data give us information of limited significance. More important, it seems, was Bozeman's continued growth,

Table 9

GASOLINE PUMPS AS A PERCENT OF
1965 BASE YEAR, CORRIDOR AREA, 1965-1969

	Gasoline Pumps					
	1965		1968		1969	
Town	Number	Percent	Number	Percent	Number	Percent
Bozeman	161	100.0	172	106.8	170	105.6
Belgrade	18	100.0	17	94.4	20	111.1
Manhattan	6	100.0	5	83.3	5	83.3
Three Forks	23	100.0	21	91.3	21	91.3
Others	8	100.0	9	112.5	9	112.5
AVERAGE	216	100.0	224	103.7	225	104.2

Source: Bureau of Business and Economic Research, University of Montana, Missoula.

as witnessed by the increase in service stations and gallons of gasoline sold. The loss of one station in Belgrade was also accompanied by a sharp decline in gasoline gallonage sales after it was bypassed in 1965. As will be discussed later, Belgrade's gallonage declined by 31,225 gallons per year from 1965 through 1969. Yet, with one less station in operation in 1969, the average gallons sold per station increased 12.3 percent over 1965.

Customers for Electricity and KWH Consumption

Of the corridor's four largest towns, Bozeman had the largest increase in total customers for electricity during the study period. The total number of customers increased 11.3 percent in Bozeman. It was closely followed by Belgrade and Three Forks with increases of 9.9 and 8.8 percent, respectively. The amount of power consumed in kilowatt hours, on the other hand, increased 44.3 percent in Bozeman. Manhattan increased 43.5 percent and Three Forks rose 41.5 percent. Belgrade had the smallest gain, with a 5.8 percent increase. (See table 10, page 5.25, and figures 11 and 12, pages 5.26-5.27.) These data provide only limited information. Because they represent not only customers and electrical power consumption within each of the communities and incorporate the rural areas surrounding the towns, growth in the agricultural industries and in persons living in rural areas may account for a considerable portion of total growth. The data, furthermore, represent several classes of customers: residential, commercial, industrial, and "others."

Table 10

TOTAL ELECTRICAL CUSTOMERS AND USAGE AS A PERCENT OF 1965 BASE YEAR IN CORRIDOR AREA, 1960-1969

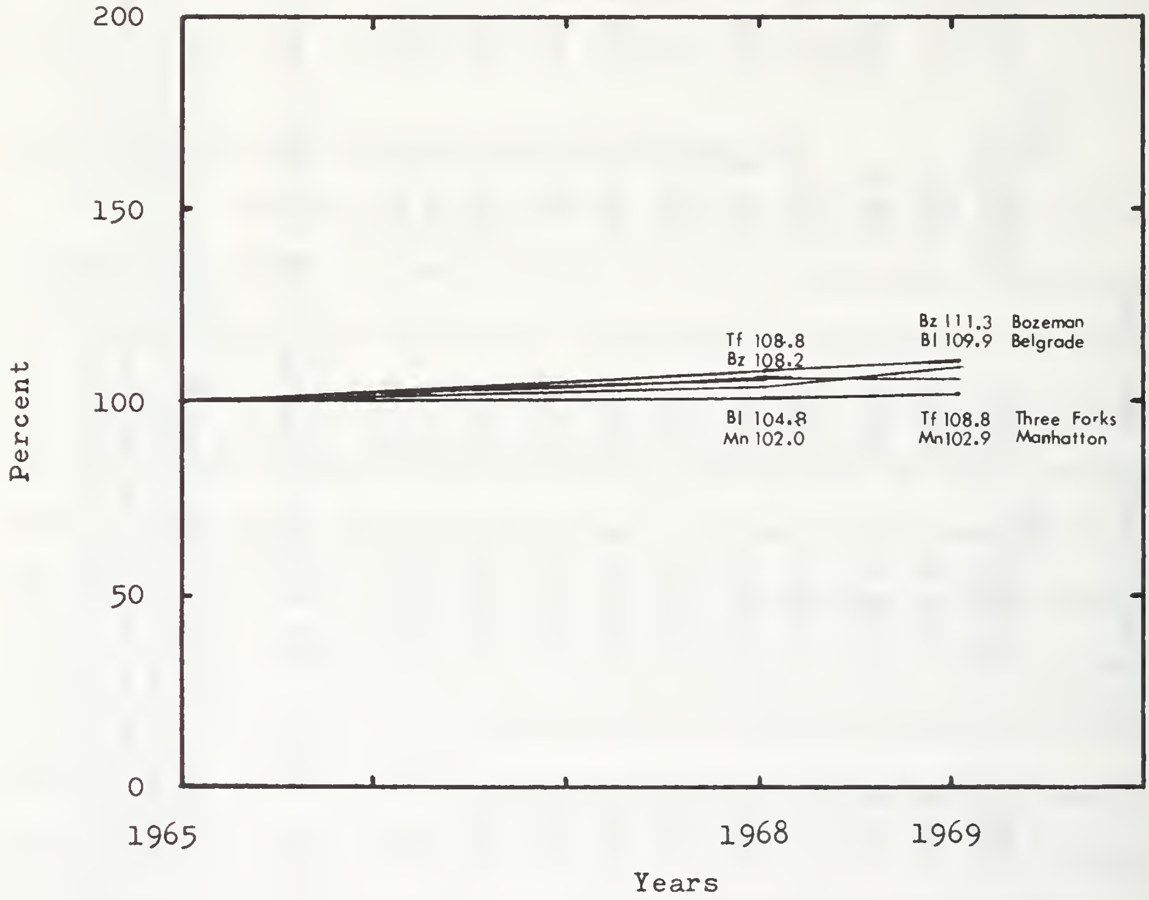
Town	1960		1965		1968		1969	
	Customers	KWH	Customers	KWH	Customers	KWH	Customers	KWH
Bozeman	89.2	66.1	100.0	100.0	108.2	129.6	111.3	144.3
Belgrade	90.2	81.5	100.0	100.0	104.8	103.7	109.9	105.8
Manhattan	97.9	79.7	100.0	100.0	102.0	114.2	102.9	143.5
Three Forks	90.8	74.7	100.0	100.0	108.8	128.6	108.8	141.5
Amsterdam	91.6	80.5	100.0	100.0	108.8	127.2	112.8	133.2
Logan	110.4	110.5	100.0	100.0	104.5	109.0	103.0	123.5
Trident	150.0	122.1	100.0	100.0	91.7	112.9	95.8	148.4
Willow Creek	89.7	56.8	100.0	100.0	101.7	118.3	112.0	130.5
TOTAL	90.3	80.6	100.0	100.0	107.4	122.5	110.5	140.4

Sources: Montana Power Company, Butte Office; and Bureau of Business and Economic Research, University of Montana, Missoula.

Note: Total number of electrical customers and total KWH usage in 1965 Base Year were: Bozeman (6,319 customers and 61,022,342 KWH); Belgrade (666 customers and 10,823,791 KWH); Manhattan (512 customers and 3,650,873 KWH); Three Forks (567 customers and 3,767,261 KWH); Amsterdam (477 customers and 5,171,598 KWH); Logan (67 customers and 287,149 KWH); Trident (24 customers and 23,310,204 KWH); and Willow Creek (233 customers and 3,207,950 KWH).

Figure 11

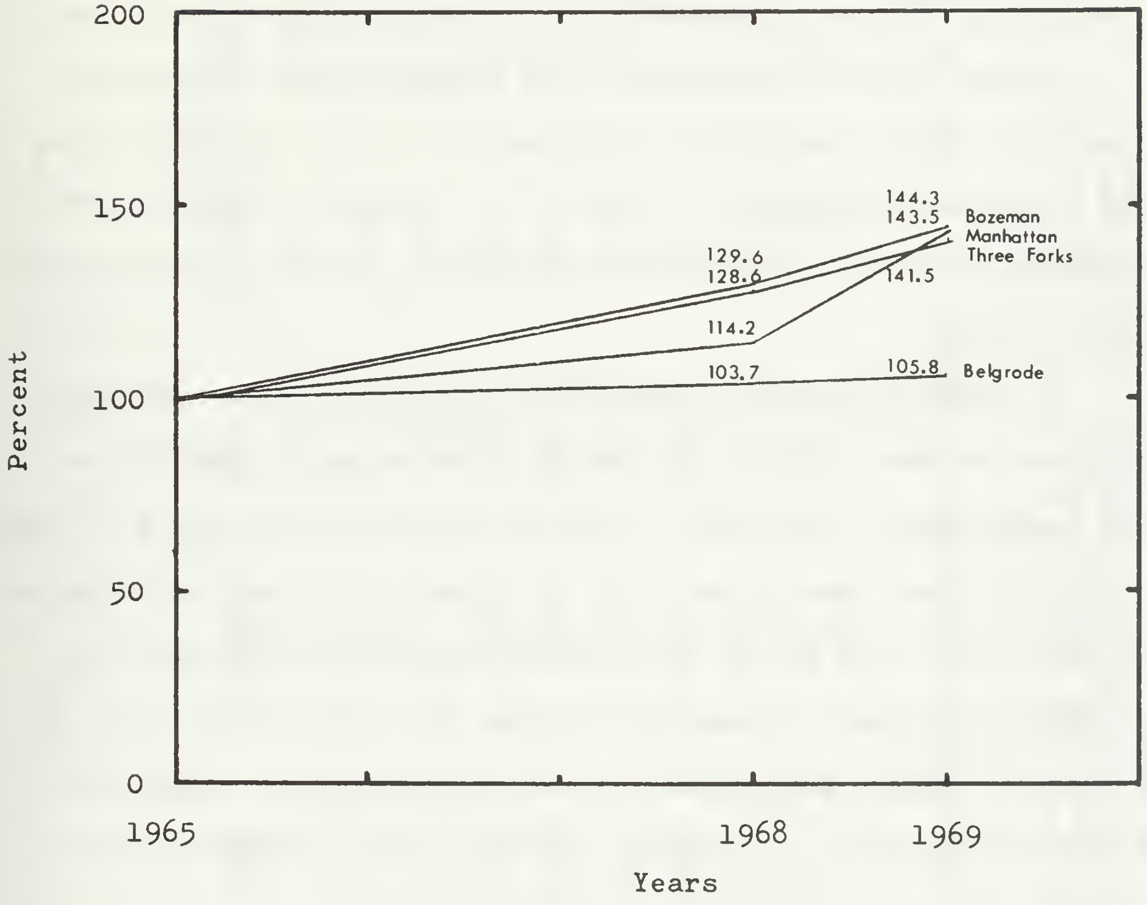
PERCENTAGE CHANGE IN THE NUMBER OF ELECTRICAL CUSTOMERS OF TOWNS IN THE CORRIDOR AREA, 1965-1969



Source: Montana Power Company, Butte, Montana.

Figure 12

PERCENTAGE CHANGE IN ELECTRICAL POWER CONSUMPTION OF TOWNS IN THE CORRIDOR AREA, 1965-1969*



*Based upon kilowatt hours.

Source: Montana Power Company, Butte, Montana.

Considering the classification of only residential customers and their consumption of electricity, Bozeman enjoyed the largest increase, 11.3 percent, during the study period. (See table 11, page 5.29, and figures 13 and 14, pages 5.30 and 5.31.) Belgrade and Three Forks had an increase in customers of 9.7 and 9.5 percent, respectively. Manhattan had the smallest increase of only 1.7 percent during the period. More significantly, residential electrical power consumption increased at a more rapid rate than the increase in customers. Bozeman, for example, increased KWH consumption by 35.2 percent while Manhattan had the smallest gain, 15.9 percent.

In commercial power consumption, Belgrade had the smallest increase in KWH. All of the remaining three major communities had considerably larger KWH increases during the 1965-1969 period.[10]

Electrical power data do not provide indications of the effects of Interstate 90. All of the communities showed increases in customers and power consumption during the study period. The inclusion of larger geographical areas surrounding the communities, furthermore, makes it extremely difficult to conclude the real changes taking place within the communities.

Telephone Exchanges

Bozeman and Belgrade exhibited the largest increases in telephone exchanges, i.e., telephone customers, during the study period. (See table 12, page 5.32, and figure 15, page 5.33.) Telephone

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[10] See Appendix B, page 8.7, for additional data on electrical power consumption.

Table 11

TOTAL RESIDENTIAL ELECTRICAL CUSTOMERS AND USAGE AS A PERCENT OF 1965 BASE YEAR IN CORRIDOR AREA, 1960-1969

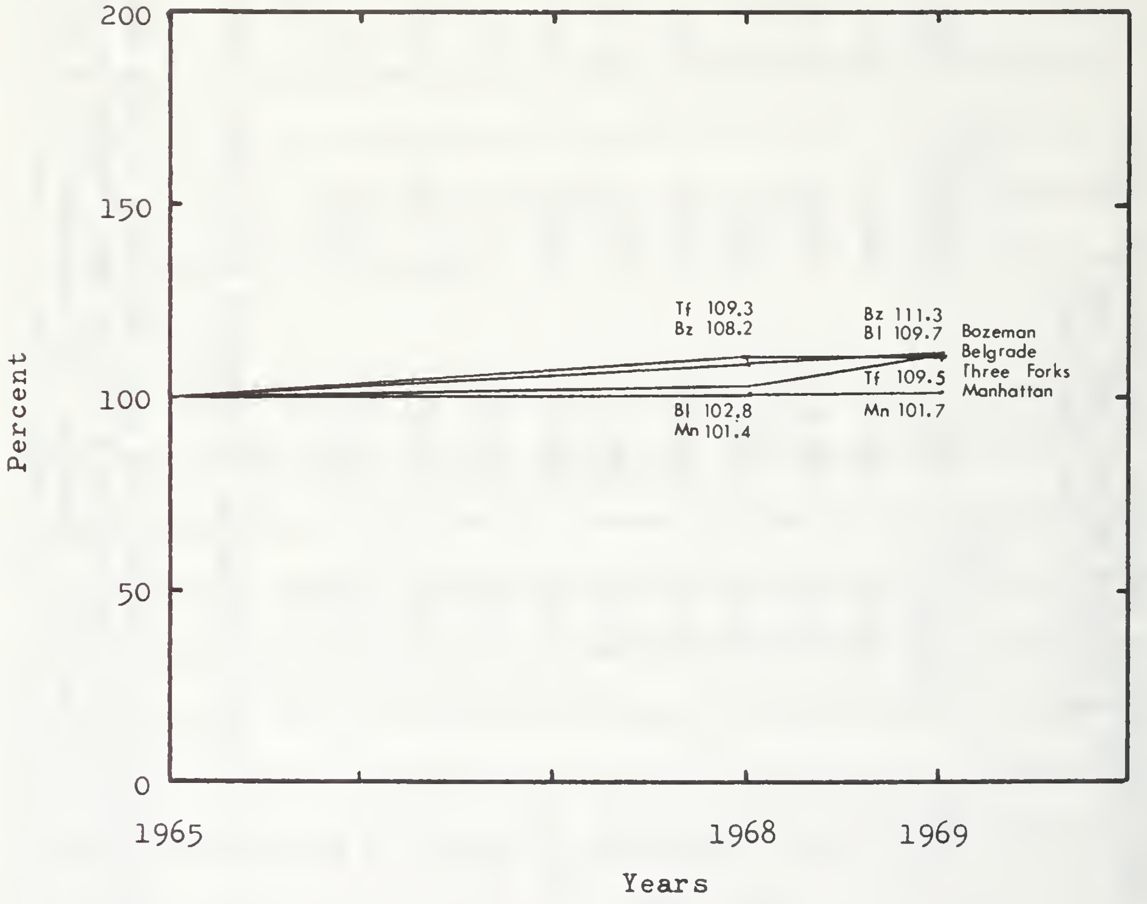
Town	1960		1965		1968		1969	
	Customers	KWH	Customers	KWH	Customers	KWH	Customers	KWH
Bozeman	88.3	71.0	100.0	100.0	108.2	123.8	111.3	135.2
Belgrade	88.6	75.0	100.0	100.0	102.8	114.9	109.7	122.2
Manhattan	98.3	79.8	100.0	100.0	101.4	110.3	101.7	115.9
Three Forks	91.1	78.5	100.0	100.0	109.3	119.8	109.5	128.0
Amsterdam	90.4	81.5	100.0	100.0	106.6	122.5	110.5	127.4
Logan	107.8	105.7	100.0	100.0	102.0	109.3	96.1	112.8
Trident	166.7	134.7	100.0	100.0	83.3	122.4	88.9	108.2
Willow Creek	95.4	85.2	100.0	100.0	99.4	122.4	102.9	129.2
TOTAL	89.6	74.4	100.0	100.0	107.1	121.5	110.2	131.0

Sources: Montana Power Company, Butte Office; and Bureau of Business and Economic Research, University of Montana, Missoula.

Note: Total number of residential electrical customers and total KWH usage in 1965 Base Year were: Bozeman (5,554 customers and 24,871,957 KWH); Belgrade (568 customers and 3,837,134 KWH); Manhattan (418 customers and 2,599,263 KWH); Three Forks (440 customers and 2,011,949 KWH); Amsterdam (437 customers and 4,613,449 KWH); Logan (55 customers and 223,346 KWH); Trident (18 customers and 79,604 KWH); and Willow Creek (173 customers and 1,467,228 KWH).

Figure 13

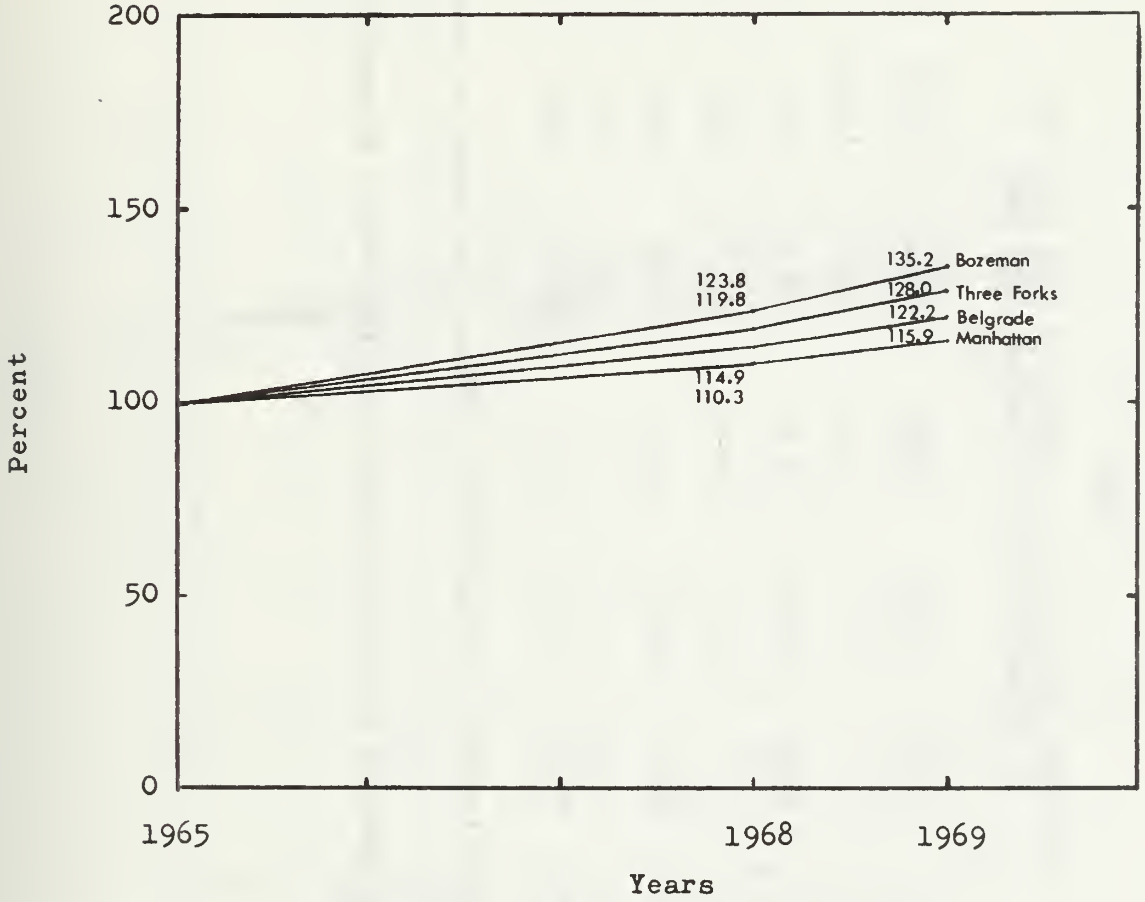
PERCENTAGE CHANGE IN THE NUMBER OF RESIDENTIAL ELECTRICAL CUSTOMERS OF TOWNS IN THE CORRIDOR AREA, 1965-1969



Source: Montana Power Company, Butte, Montana.

Figure 14

PERCENTAGE CHANGE IN RESIDENTIAL ELECTRICAL POWER CONSUMPTION OF TOWNS IN THE CORRIDOR AREA, 1965-1969*



*Based upon kilowatt hours.

Source: Montana Power Company, Butte, Montana.

Table 12

TELEPHONE EXCHANGES AS A PERCENT OF 1965 BASE YEAR BY EXCHANGE AREA IN CORRIDOR, 1960-1969

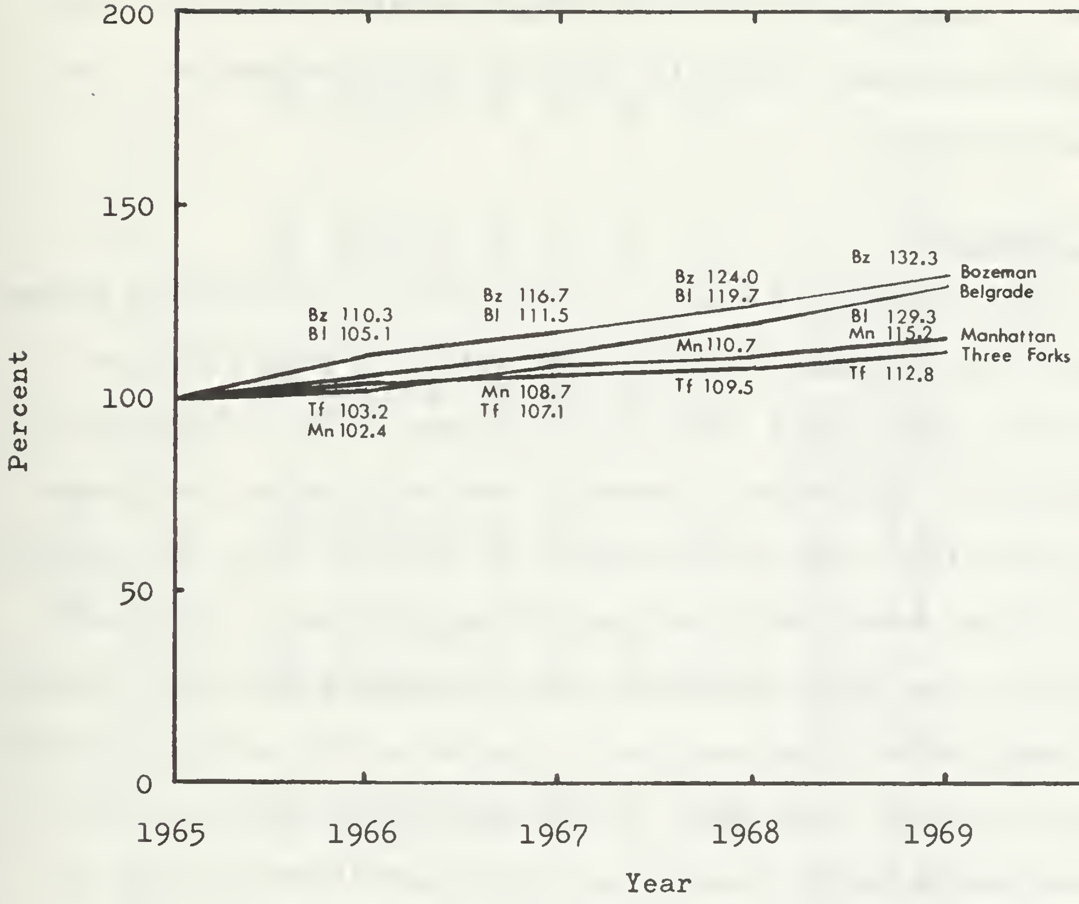
	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Bozeman	83.3	86.5	88.1	90.1	94.6	100.0	110.3	116.7	124.0	132.3
Belgrade	84.5	85.2	93.1	93.5	96.8	100.0	105.1	111.5	119.7	129.3
Manhattan	89.7	90.5	92.5	95.9	96.9	100.0	102.4	108.7	110.7	115.2
Three Forks	85.2	88.0	92.9	96.3	98.7	100.0	103.2	107.1	109.5	112.8
TOTAL	83.8	86.8	89.0	91.0	95.1	100.0	109.0	115.3	122.0	129.8

Sources: Mountain States Telephone Company, Bozeman District Office; and Bureau of Business and Economic Research, University of Montana, Missoula.

Note: Total number of telephone stations in service in 1965 Base Year were: Bozeman, 10,475; Belgrade, 710, Manhattan, 797; and Three Forks, 789.

Figure 15

PERCENTAGE CHANGE IN TELEPHONE EXCHANGES OF TOWNS IN THE CORRIDOR AREA, 1965-1969



Source: Mountain States Telephone Company, Bozeman District Office, Bozeman, Montana.

customers increased 29.8 percent during this period. Two sets of growth rates emerge from analysis of the data. Bozeman and Belgrade increased 32.3 and 29.3 percent, respectively. Manhattan and Three Forks also increased but at a lower rate of 15.2 and 12.8 percent. Thus, the former towns are adding telephone customers at a rate of approximately 6 to 8 percent per year while the latter are growing at about one-half that rate with increases of 3 to 4 percent per year.[11]

Bank Deposits

Total deposits of banks in the corridor increased 38.9 percent in 1969 over deposits of 1965. (See table 13, page 5.35, and figure 16, page 5.36.) With the exceptions of Three Forks and Belgrade, the increases in deposits were very similar and ranged on an individual bank basis between increases of 35.7 to 40.7 percent. Three Forks, which had previously exhibited a more rapid increase in deposits since 1960, had increased 83.0 percent during the study period. Belgrade had the lowest growth with an increase of 30.2 percent. The impact of Interstate 90 is believed by the researchers to be the cause of a rather significant decline in Belgrade's bank deposits in 1966. The decline was 10.1 percent from the previous year. Three Forks had only a very nominal increase in deposits in 1966 with a rise of 1.9 percent. Both Belgrade and Three Forks demonstrated sustained growth in bank deposits after 1966. A Manhattan bank official stressed the

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[11] See Appendix B, page 8.8, for additional telephone exchange data.

Table 13

COMMERCIAL BANK DEPOSITS AS A PERCENT OF 1965 BASE YEAR IN CORRIDOR AREA, 1960-1969

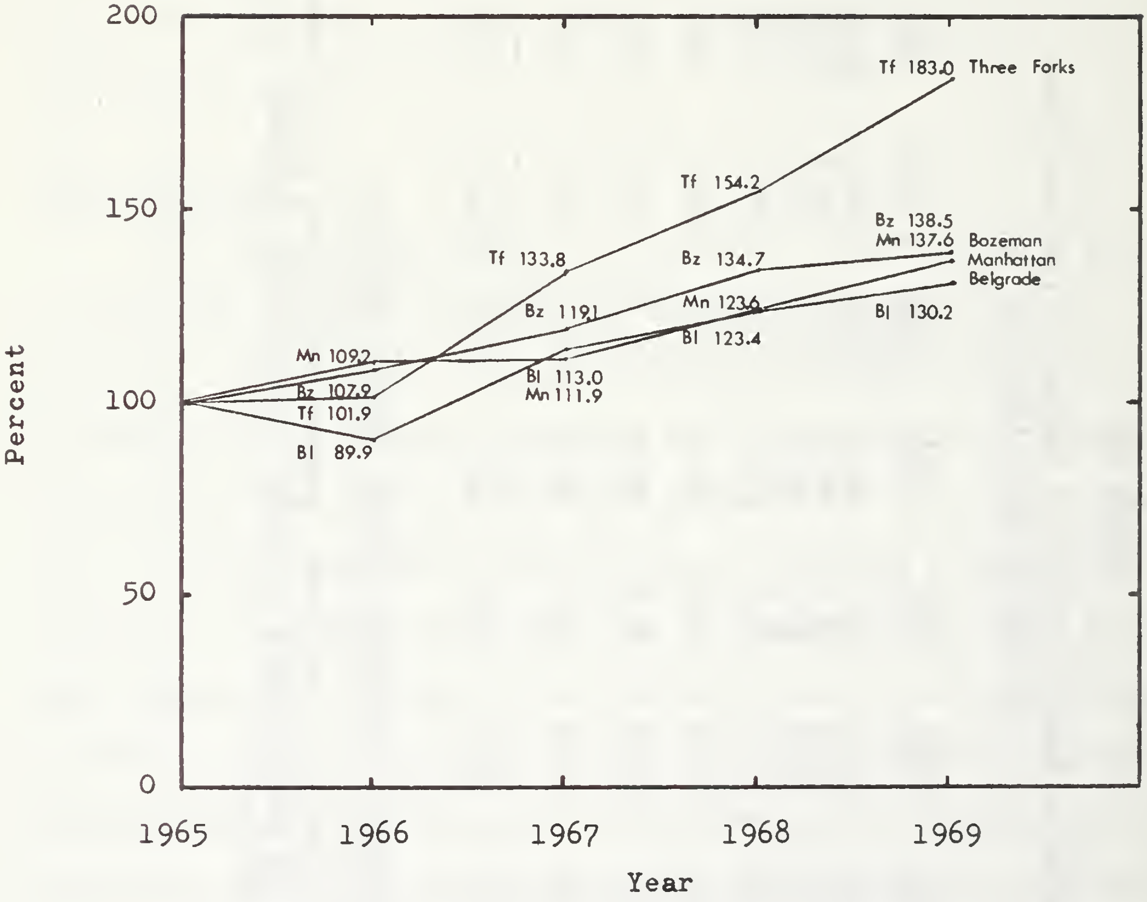
Town	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Bozeman	66.5	72.1	78.1	83.6	91.8	100.0	107.9	119.1	134.7	138.5
First National	67.3	72.3	78.5	84.5	91.3	100.0	107.8	123.2	140.0	140.7
Gallatin Trust & Savings	77.5	87.1	87.1	96.3	95.3	100.0	111.3	112.1	120.1	139.3
Security Bank & Savings	62.4	67.6	75.1	78.9	91.2	100.0	107.1	116.3	132.8	135.7
Belgrade	66.4	70.5	82.5	95.7	97.1	100.0	89.9	113.0	123.4	130.2
Manhattan	74.8	73.6	82.0	90.7	95.0	100.0	109.2	111.9	123.6	137.6
Three Forks	25.2	52.6	77.2	85.1	98.2	100.0	101.9	133.8	154.2	183.0
TOTAL	66.3	71.9	78.2	84.1	92.0	100.0	107.6	118.9	134.4	138.9

Source: Commercial West Bank Directory of the Ninth Federal Reserve District.

Note: Commercial Bank Deposits in 1965 Base Year were: Bozeman, $41,791,049 (First National, $19,835,785; Gallatin Trust & Savings, $4,887,609; and Security Bank & Savings, $17,067,655); Belgrade, $1,321,336; Manhattan, $3,199,269; and Three Forks, $1,048,939.

Figure 16

PERCENTAGE CHANGE IN COMMERCIAL BANK DEPOSITS OF TOWNS IN THE CORRIDOR AREA, 1965-1969



Source: Commercial West Bank Directory of the Ninth Federal Reserve District.

importance of agriculture to corridor banks. He remarked to interviewers that only one-sixth of his bank's customers lived within Manhattan; the remainder were area farmers.

One of the factors responsible for Belgrade's lower growth rate in deposits may be its relative closeness to Bozeman; the coming of Interstate 90 has made it more feasible for local residents to bank in Bozeman. A real estate agent in Belgrade, who was a former bank president there, commented about the proportion of persons living in Belgrade who commuted to Bozeman to work. Some blocks within the town, he stated, were populated almost entirely by commuters. Thus, persons living in Belgrade, but employed in Bozeman, may also have a tendency to bank in Bozeman. If this is the case, a limited "mobility effect" may have occurred.

Public School Enrollment

Although public school enrollment may not be a direct indicator of a community's economy, indirectly it reflects the total population size and age groups of that community. The availability and quality of public schools within a community would serve as a stimulus for growth. Conversely, the absence of adequate school facilities would deter persons with children from living in the community unless bussing facilities are available to relatively near alternative school facilities.

Although overall public school enrollment in the corridor increased 9.8 percent from the 1964-65 through 1968-69 school years, almost all of the growth was in Bozeman. (See table 14, page 5.38, and figure 17, page 5.39.) Bozeman's public school enrollment

Table 14

PUBLIC SCHOOL ENROLLMENT AS A PERCENT OF 1964-1965 BASE YEAR IN CORRIDOR AREA, 1960-1969

Town	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69
Bozeman	84.7	92.7	96.0	96.3	100.0	106.2	108.3	109.8	116.2
Belgrade	78.0	81.7	83.7	86.9	100.0	102.4	98.1	101.3	104.5
Manhattan	90.4	95.0	92.2	99.8	100.0	95.6	95.4	96.3	87.6
Three Forks	87.4	93.5	91.8	97.4	100.0	95.8	94.4	97.2	97.4
Amsterdam	123.5	100.0	147.1	117.6	100.0	70.6	70.6	94.1	88.2
Logan	200.0	171.4	133.3	104.8	100.0	90.5	104.8	114.3	100.0
Trident	237.5	225.0	162.5	137.5	100.0	75.0	*	*	*
Willow Creek	94.5	100.0	142.7	118.2	100.0	100.9	108.2	99.1	92.7
TOTAL	85.7	92.3	95.2	96.2	100.0	103.6	104.4	106.0	109.8

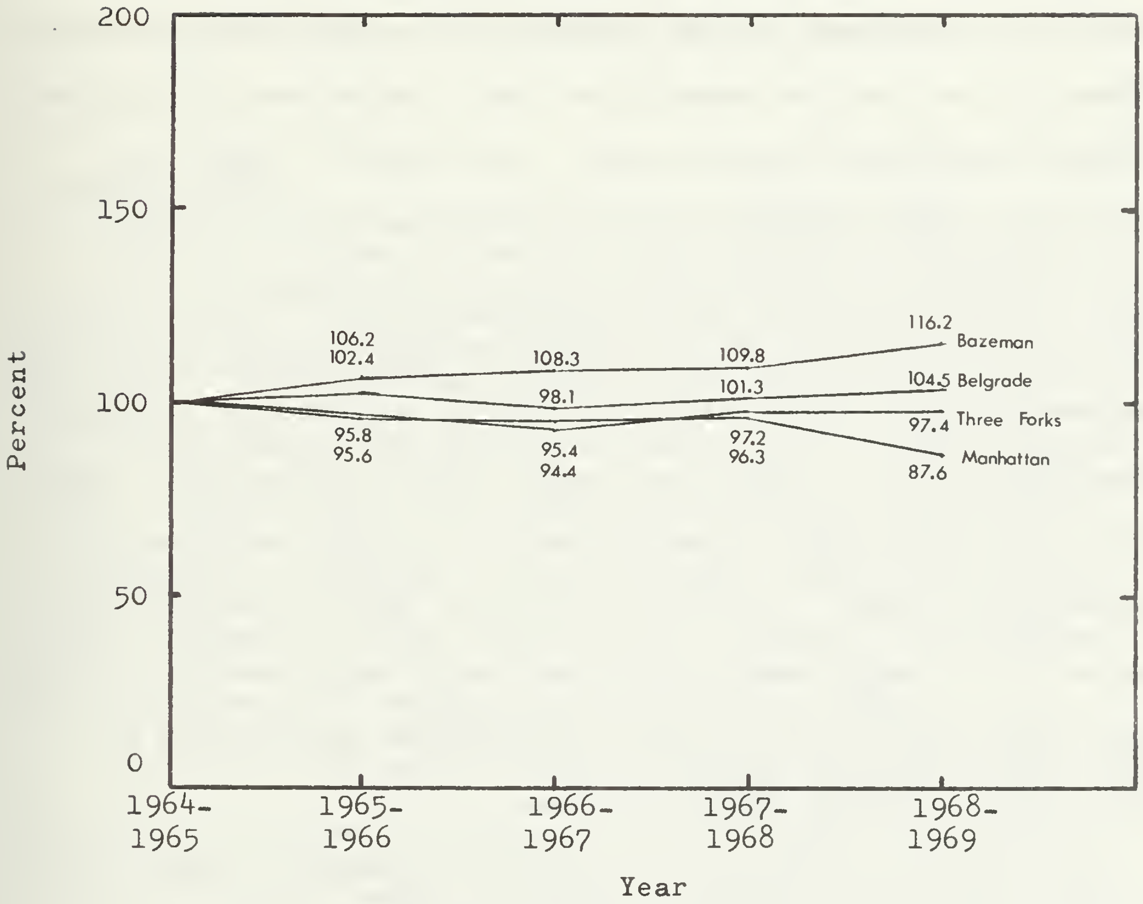
Sources: Superintendent of Public Instruction, Helena; and Bureau of Business and Economic Research, University of Montana, Missoula.

Note: Total public school enrollment in 1964-65 Base Year was: Bozeman, 3,362; Belgrade, 618; Manhattan, 436; Three Forks, 428; Amsterdam, 17; Logan, 21; Trident, 8; and Willow Creek, 110.

*School was closed.

Figure 17

PERCENTAGE CHANGE IN PUBLIC SCHOOL ENROLLMENT OF TOWNS IN THE CORRIDOR AREA, 1965-1969



Source: Superintendent of Public Instruction, Helena, Montana.

increased 16.2 percent during that period. Belgrade increased 4.5 percent after a slight decline during the 1966-67 school year. Manhattan, on the other hand, declined 12.4 percent by 1969 and Three Forks had declined 2.6 percent.

School enrollment is a correlative of population size and birth rates. Although the age composition factor of birth rates is unknown for the various communities other than Bozeman, actual and estimated population sizes do exist. (See table 3, page 4.12.) From 1960 to 1970, Bozeman's population increased 39.7 percent; school enrollment increased 31.5 percent. For Belgrade, population increased 23.7 percent and school enrollment rose 26.5 percent. Manhattan's population is estimated to have declined 8.2 percent during this period. School enrollment dropped 2.8 percent. Three Forks' population rose 2.3 percent while its school enrollment increased 10.0 percent. If the full ten-year school enrollment had been used, the comparisons would have likely been closer; yet, the overall population size and school enrollments tend to move together, if at somewhat different rates.

The birth rate factor for the national population may be indicated by the comparison of students in primary and secondary schools. During the 1960-61 school year, 73.5 percent of students enrolled in public schools in the corridor were in the elementary grades. By the 1968-69 school year, elementary enrollment had declined to 68.8 percent of total students enrolled.

All school districts outside of Bozeman attract large proportions of students from rural areas. For example, Willow Creek, which has very limited business activity, had 102 students enrolled during the 1968-69 school year. The few businesses in Willow Creek would not provide sufficient employment for that many families; therefore, because of its relatively isolated location and the lack of local employment, one concludes that persons commute to other areas for employment who live in town, and the remainder are area farmers.[12]

Gasoline Sales

Service stations represent a major industry affected by changing travel and consumption patterns of highway users. During the period of 1965 through 1969, gasoline gallonage sold in the corridor increased 32.9 percent. (See table 15, page 5.42, and figure 18, page 5.43.) The largest gain in gallonage sold was Bozeman with an increase of 39.8 percent. Manhattan and Three Forks increased 25.9 and 23.8 percent. Belgrade, on the other hand, declined 15.8 percent from 1965 through 1969.

Over a 10-year period, however, Bozeman and Three Forks had significantly larger increases in gallonage sold. From 1960 through 1969, for example, Bozeman increased 66.5 percent while Three Forks' gallonage rose 65.4 percent. During that period, Manhattan also increased sales by 27.1 percent. Belgrade declined 16.6 percent.

Interstate 90 appears to have had a considerable impact in causing a decline in total gasoline sales in Belgrade. However, from 1962 through 1965, Belgrade's gasoline gallonage sales

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[12] See Appendix B, page 8.9, for additional school enrollment data.

Table 15

GASOLINE GALLONAGE AS A PERCENT OF 1965 BASE YEAR IN CORRIDOR AREA, 1960-1969

Town	1960	1962	1963	1964	1965	1966	1967	1968	1969
Bozeman	73.3	86.1	92.4	93.6	100.0	106.5	121.5	127.9	139.8
Belgrade	100.8	112.7	109.7	106.9	100.0	101.3	85.3	91.4	84.2
Manhattan	98.8	86.7	96.2	105.9	100.0*	109.2	112.2	112.2	125.9
Three Forks	58.4	75.1	83.5	95.1	100.0	98.8	114.5	122.1	123.8
All Others	84.2	144.1	85.9	69.8	100.0	112.0	91.5	117.9	121.2
TOTAL	75.8	87.6	93.0	95.4	100.0	105.6	117.2	123.4	132.9

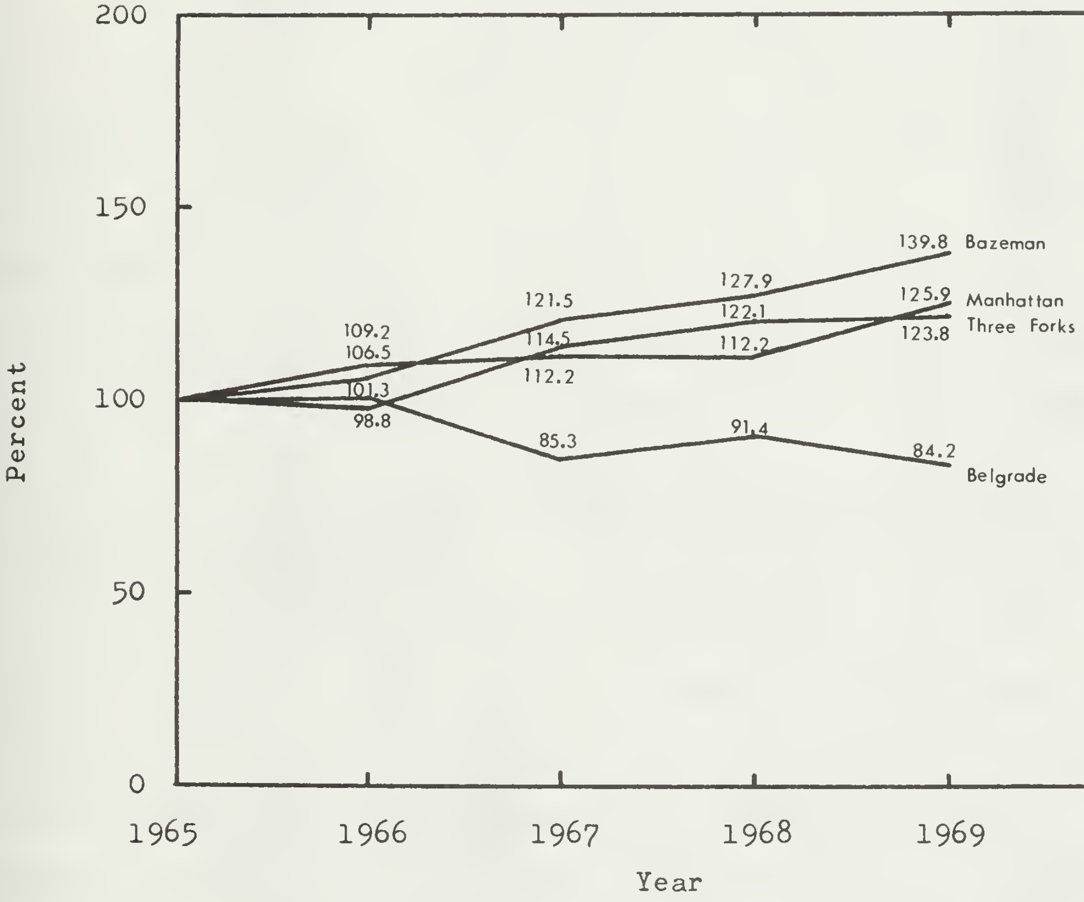
Notes: The year 1961 was omitted because of insufficient data.

The following gallonage was pumped in 1965: Bozeman, 9,863,070; Belgrade, 1,014,502; Manhattan, 908,987; Three Forks, 1,269,504; All others, 103,299; and Total, 13,159,362.

*Manhattan was bypassed in December 1964 and during all of 1965. It remained bypassed until April 1966, at which time traffic was routed through Manhattan until October 1966.

Figure 18

PERCENTAGE CHANGE IN GASOLINE GALLONAGE SALES OF SELECTED FIRMS IN CORRIDOR AREA, 1965-1969



Source: Montana Petroleum Association, Billings, Montana.

declined 12.7 percent. Thus, for three years preceding the bypass of Belgrade, its gasoline sales were declining. The small increase of 1.3 percent in sales for 1966 may be explained by the construction schedule of the I-90 segments from Manhattan to Belgrade and from Belgrade to Bozeman. Both major highway sections were opened to travel in October, 1966.[13] In the following year, though, gasoline sales dropped 16.0 percent in Belgrade. The effects of I-90 upon that town's highway-oriented businesses seem to be considerable in 1967. Yet, the erratic nature of gasoline sales over the decade of the 1960's would appear to have Interstate 90 only stimulating the decline which began in 1962. Other causal factors evidently existed and the highway was only one of several.

Opinions about the Economic Effects of I-90

Owners and managers of firms in the corridor area were asked to express their opinions about the effects of Interstate 90 on their businesses. One question inquired about the short-run effects (reflecting 1970) while the other asked about the long-run (1975 or later). Answers were categorized into three types of responses: (1) positive or good effects on business, (2) no effects (including no opinions), and (3) negative or bad effects on trade.

Three sets of contrasting opinions were observed. First attitudes varied between operators of highway-oriented firms and the nonhighway businesses. Second, differences existed between short-run and long-run periods. Finally, attitudes varied from community to community.

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[13] See Appendix B, pages 8.10-8.11, for additional I-90 construction contract data.

Interstate 90 near Three Forks, Montana.

Montana Highway Commission

In the short-run, 13.5 percent of all highway businesses considered Interstate 90 as having negative effects. (See table 16, page 5.47, and figures 19-22, pages 5.48-5.51.) Only 3.4 percent of the nonhighway firms said the effects were negative. In the long-run, 20.6 percent of the highway-oriented firms perceived effects as negative while only 4.6 percent of the nonhighway group thought the effects would be bad. The combined average, however, including both categories of businesses indicated that positive effects outweighed the negative ones. In the short-run, for example, 10.9 percent of all businesses considered the effects to be beneficial, whereas, only 5.7 percent considered them to be negative. In the long-run, 19.7 percent were positive and 8.3 percent were negative. A large majority of business operators considered I-90 as having no effects, whatsoever, or they stated no opinions. The negative effects of I-90 were greater for the highway-oriented firms than for the nonhighway businesses.

Comparison of the short- and long-run periods is distorted by the addition of Bozeman to summary statistics. In the short-run Bozeman had not yet been bypassed by I-90, thus, very few businesses considered the highway's effects as being negative. Only 1.2 percent of Bozeman's highway firms stated the effects were negative in the short-run, but 19.3 percent thought the effects would be harmful to their firms in the long-run. For all of the other communities, the negative effects declined in the long-run and the positive effects increased.

Variations in stated effects were noted among the various communities. For example, in the short-run, 47.8 percent of highway

Table 16

PERCEIVED SHORT- AND LONG-RUN ECONOMIC EFFECTS OF INTERSTATE 90, CORRIDOR AREA, 1970

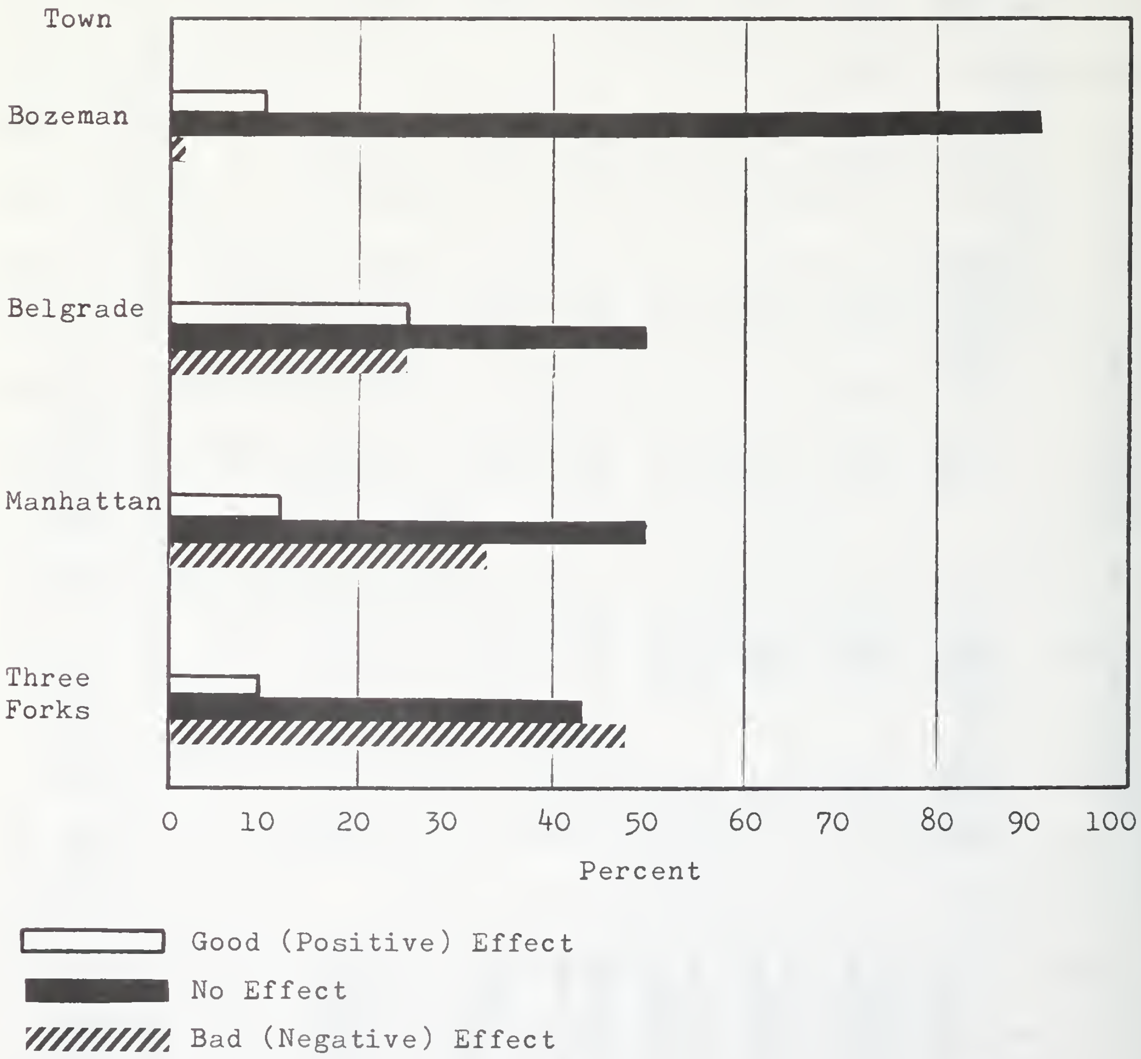
Town and Business Orientation		Businesses		Perceived Economic Effects*					
				Short-Run			Long-Run		
		Number	Percent	Good	No Effect	Bad	Good	No Effect	Bad
Bozeman	- Highway	83	100.0	9.6	89.2	1.2	15.7	65.1	19.3
	- Nonhighway	327	100.0	11.0	87.5	1.5	19.3	75.8	4.9
Belgrade	- Highway	12	100.0	25.0	50.0	25.0	41.7	33.3	25.0
	- Nonhighway	17	100.0	29.4	52.9	17.6	52.9	41.2	5.9
Manhattan	- Highway	6	100.0	16.7	50.0	33.3	33.3	50.0	16.7
	- Nonhighway	27	100.0	7.4	81.5	11.1	18.5	77.8	3.7
Three Forks	- Highway	23	100.0	8.7	43.5	47.8	26.1	47.8	26.1
	- Nonhighway	34	100.0	5.9	88.2	5.9	8.8	91.2	0.0
Other Locations	- Highway	2	100.0	0.0	100.0	0.0	0.0	100.0	0.0
	- Nonhighway	12	100.0	0.0	91.7	8.3	8.3	83.3	8.3
TOTAL	- Highway	126	100.0	11.1	75.4	13.5	20.6	58.7	20.6
	- Nonhighway	417	100.0	10.8	85.9	3.4	19.4	76.0	4.6
AVERAGE		543	100.0	10.9	83.4	5.7	19.7	72.0	8.3

Source: Bureau of Business and Economic Research, University of Montana, Missoula.

*Short-run: three years or less; long-run: over three years.

Figure 19

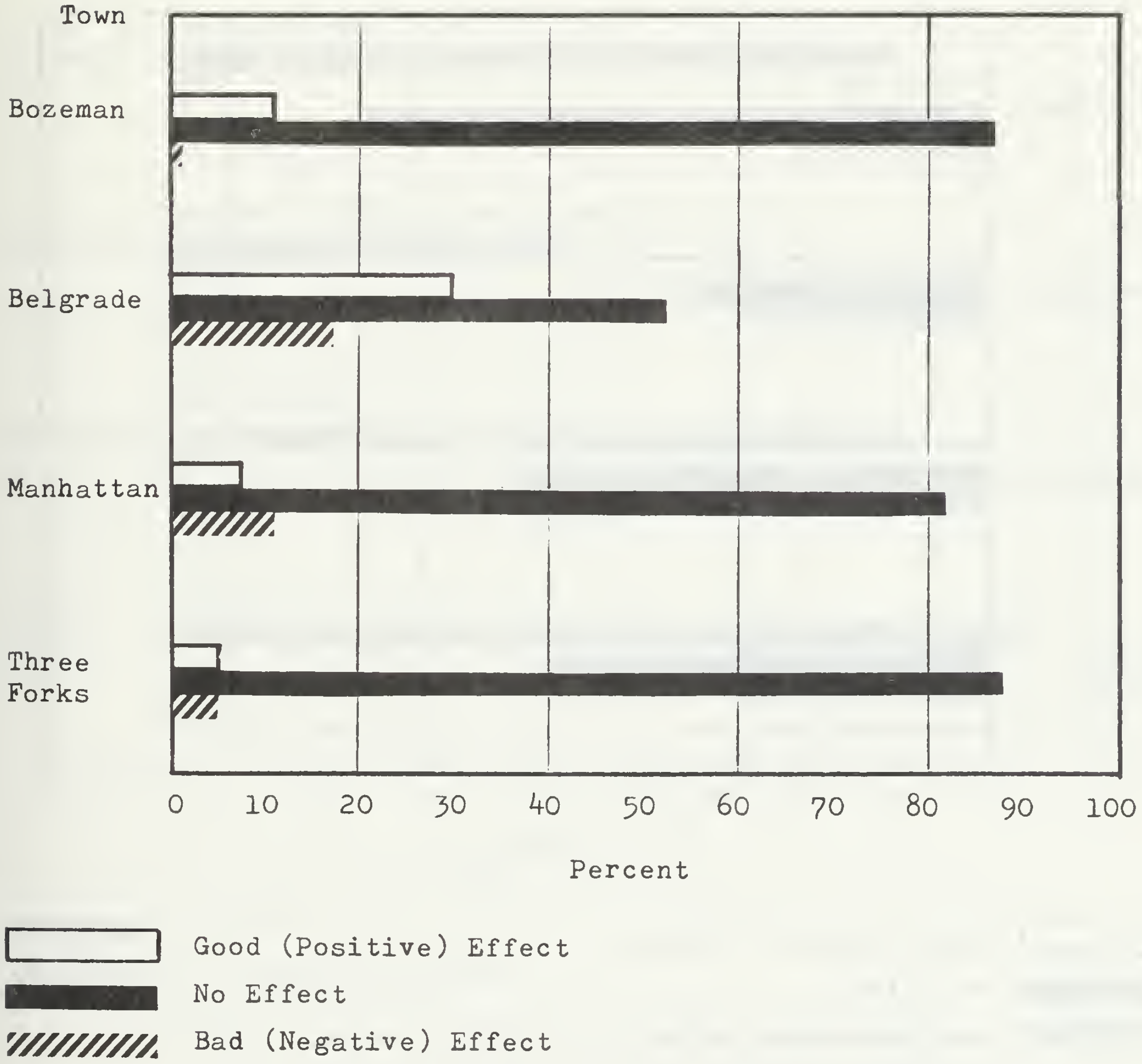
PERCEIVED SHORT-RUN ECONOMIC EFFECTS OF INTERSTATE 90 BY SELECTED HIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Figure 20

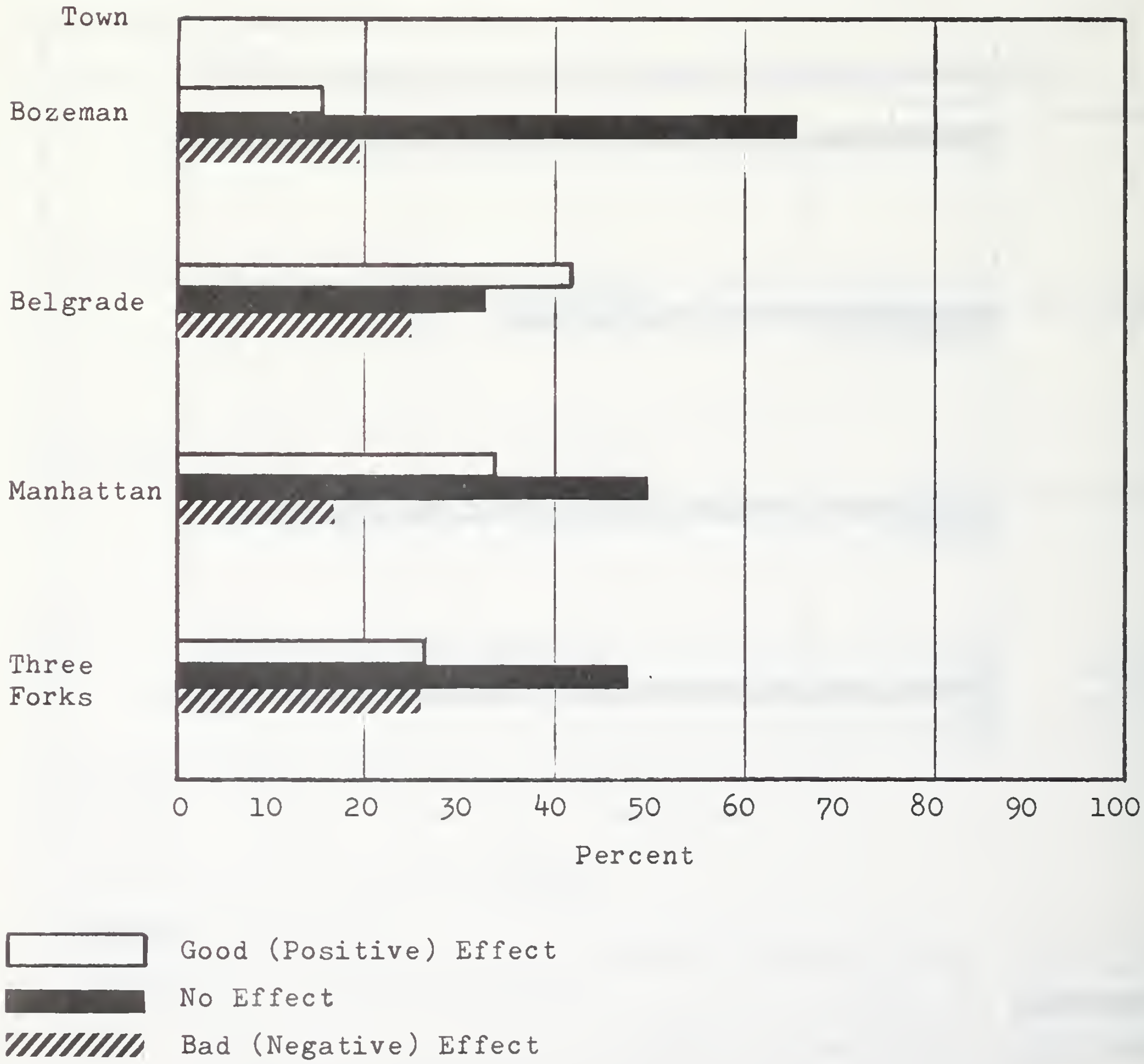
PERCEIVED SHORT-RUN ECONOMIC EFFECTS OF INTERSTATE 90 BY SELECTED NONHIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Figure 21

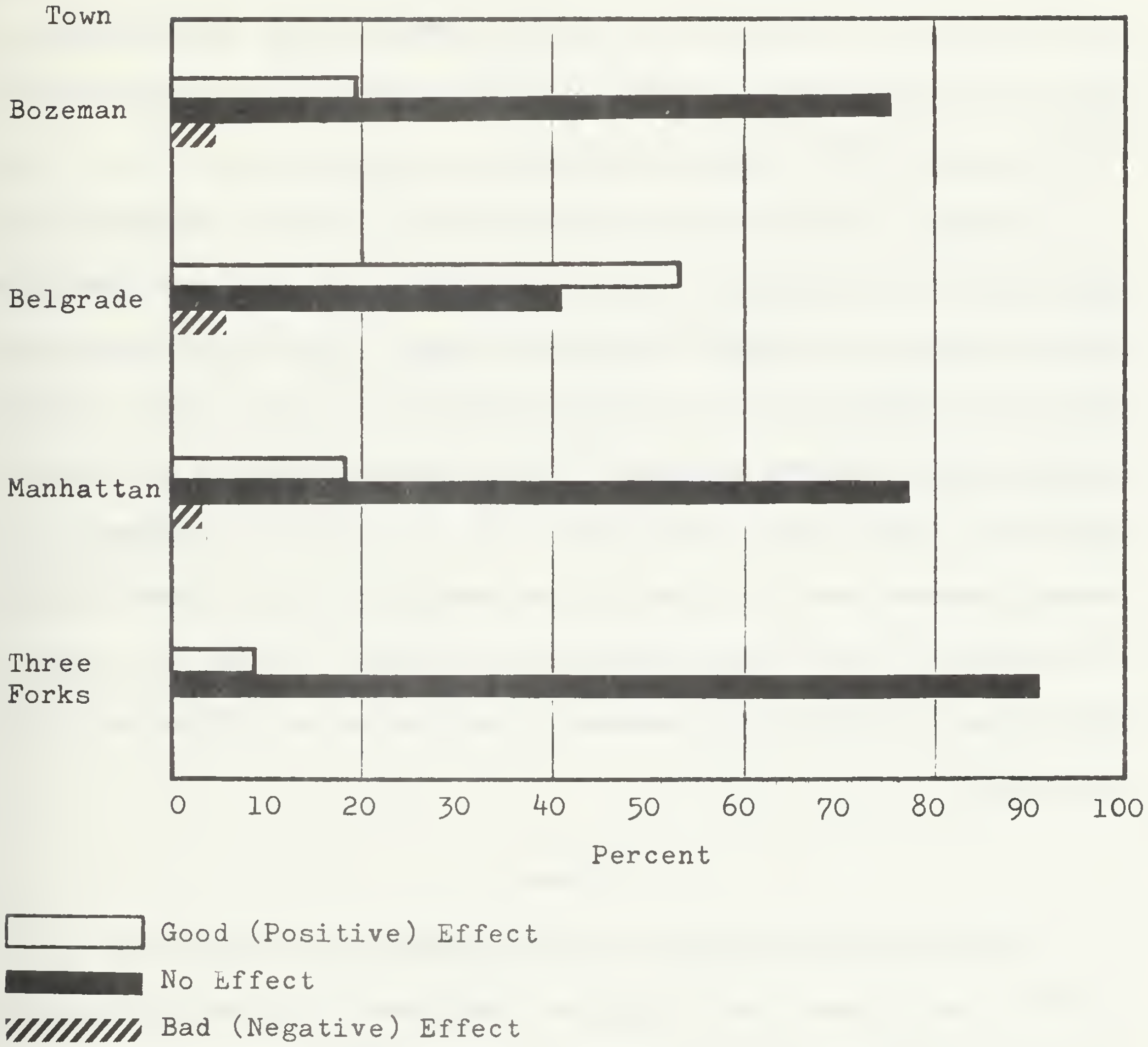
PERCEIVED LONG-RUN ECONOMIC EFFECTS OF INTERSTATE 90
BY SELECTED HIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA



Source: Bureau of Business and Economic Research,
University of Montana, Missoula, Montana.

Figure 22

PERCEIVED LONG-RUN ECONOMIC EFFECTS OF INTERSTATE 90 BY SELECTED NONHIGHWAY-ORIENTED FIRMS IN CORRIDOR AREA



Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

businesses in Three Forks indicated a belief I-90 was bad for business. Since interviewing was completed during the last half of 1970, probably the negative effects were overstated and would have been lower if interviewing had been conducted during 1969. Of Manhattan's six highway-oriented firms, two indicated negative effects and one saw positive effects. Of 12 highway firms in Belgrade, three considered I-90 as beneficial to business and another three stated it had hurt their operations.

Several conclusions are warranted by the data. As might be expected, the negative effects of bypassing the various communities are greater in the highway business sector. The negative effects taper off several years following completion of the road, or this is what many business persons believe. The adjustment period apparently lasts only a few years. The experiences acquired from being bypassed lead to a smaller percentage of respondents having no opinions or who could perceive no effects. Finally, a large percentage of owners and managers view I-90 as not affecting their businesses.

Summary

Excluding gross receipts and employment data, the other economic variables, when evaluated individually, do not provide conclusive evidence of the economic effects of Interstate 90 within the corridor area. However, in combination, they point toward Belgrade as the one community which received the greatest negative influence of the highway. In the short-run, that impact was largely confined to the highway-oriented business sector. The "bypass effect" is evident with the decline in gross receipts for this group. Several other indicators also showed declines immediately following the bypass of Belgrade, although by 1969, most of the indicators had resumed positions of growth. The "mobility effect," which if present would be noticed in a decline of sales for nonhighway firms, cannot be determined for Belgrade. To conclude that Belgrade has incurred the "mobility effect" and that a lower growth rate for its nonhighway businesses is evidence is a non sequitur. From analyses of the various economic variables, the researchers find that Belgrade has achieved overall economic growth, although at a lower rate than present in Bozeman and other corridor communities. The growth rate, as a summation of the several variables, though, was established in the early 1960's before construction of Interstate 90.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

During the relatively few years since the completion of Interstate 90 between Bozeman and Three Forks, considerable economic change has taken place. The substance of the change reflects an overall growth of the economies of the communities of Bozeman, Belgrade, Manhattan, and Three Forks. The change is manifested in the growth of population, increased trade, and expansion in employment.

Bozeman continues to increase its economic dominance within the corridor. Yet, the other communities have also exhibited the capacity for economic growth. A harmonious relationship can be observed among the corridor communities. Bozeman functions as the larger geographic trading center for the outlying towns and rural area. Belgrade, because of its proximity to Bozeman, provides considerable residential facilities for persons working in Bozeman. Manhattan is largely an agricultural community which is not greatly influenced by the relocation of I-90. Three Forks, slightly over 30 miles west of Bozeman,is a secondary trading center. It provides trade facilities for rural areas to the immediate south and west.

In conclusion, there are several methods by which the effects of Interstate 90 may be described. The effects may be viewed in terms of economic growth, stabilized conditions, or decline of the economic structures studied, namely: the general corridor economy, the individual economies of the various communities, or the segments or industries either in the corridor as a whole or within the individual communities.

Because of the unknown magnitude of the uncontrollable variables in this study, it is not feasible to describe the precise economic benefits derived from the new highway. However, as shown previously, evidence does indicate that Interstate 90 adversely affected the highway-oriented businesses of Belgrade. Since the general corridor economy continued to expand during the last half of the 1960's, and the economies of the major communities also sustained economic growth, Interstate 90 cannot be viewed as a deterrent to economic growth in the corridor area. A number of factors contributed to that growth--and it is believed Interstate 90 would be included among them.

Recommendations

Two groups of recommendations are included for consideration. The first involves potential applications of the corridor study findings. The second consists of suggestions for future research which utilizes before-after designs within Montana.

A primary application of the study is to permit communication with interested persons about what economic effects may be encountered from the construction and bypassing of relatively small towns in other sections of the State. As a document, the report encompasses the experiences of a few small communities which are probably more typical than not of other communities throughout Montana. A second use of the report is one of general background data for highway planners. The findings should assist, in a minor way, the development of an additional perspective of the economic consequences arising from highway bypasses. Data may assist in conceptualizing the use of resources, time spans, and the types of values and problems created by highway relocation.

Several problems were identified in the corridor project. Suggestions are made for improving future studies, if conducted. For example, longer time periods may be warranted in any future before-after designs. The second phase may be executed five to 10 years after the initial one. Longer-run effects can then be measured.

A control community outside of the basic study area should be used rather than an inside control. The control community should be completely free from influences of the study area. It should also possess similar characteristics of the experimental community. Finally, the control community should be free from unique social-economic influences.

The addition of more subjective factors may be warranted. The attitudes and opinions of a broader group of persons representing all residents may be acquired. Ultimately, the noneconomic factors may be considered more important or of equal importance when compared to the economic variables.

APPENDIX A

METHODOLOGY

Methods and procedures for acquiring the data used in this study are described in the following pages. Most of the methodology was determined at the time the before phase of the study was executed. Some slight modifications, including the addition of several categories of data, were made during the after phase. The discussion is organized into four general areas: business employment and number of firms, gross receipts, general indicators, and traffic indicators. The general indicators section includes descriptions of electrical consumption, telephone data, bank deposits, and school enrollments. Gasoline sales information and the origin and destination studies are described in the traffic indicators section.

Business Employment and Number of Firms

The basic information sought in this category was the number of retail trade establishments and total employment. Data were obtained through interviews with businessmen in the corridor area. The interviews were a census of retail trade, finance, insurance, real estate, and service establishments. Supplementary data also included the date the establishment was started, number of lodging units in hotels and motels, number of pumps in gasoline stations, name and address of the legal owner, and the form of business organization.

Method of Data Collection

The before phase interviewing with businessmen was concluded during September, 1966; the after phase was completed in November, 1970.

Names of the businesses to be included in the survey were obtained from telephone directories and by visual inspection. Prior to field interviewing, a preliminary list of businesses in the corridor area was taken from the 1966 and 1970 Mountain Bell telephone directories. The list was reduced by deleting those businesses which obviously were not engaged in retail trade, finance, insurance, real estate, or services trades. Where any doubt existed about the nature of the establishment, it was contacted. Visits were made to the remaining firms on the interviewing list. Those firms which fit one of the above categories were subsequently interviewed.

Since not all businesses are listed in the telephone directory, interviewers searched the corridor area communities for any additional retail trade, finance, insurance, real estate, and service firms. They added the additional businesses located in this manner to the list and interviewed them.

Two types of businesses qualified for the survey but were not included. They were non-store establishments and nonprofit organizations. Typically, non-store establishments are mail order houses, vending machine operators, and door-to-door selling organizations. Where they operate from private homes or could not be recognized as business establishments either by visual inspection or from the telephone directories, they were excluded. Nonprofit organizations were disregarded because their positions in the community are not comparable to their profit-oriented counterparts. Their gross receipts would be difficult, if not impossible, to obtain.

In the before phase, 552 firms were included. In 1968, there were 529, and in 1969, there were 544. With only one known exception, the term "firm" implies central ownership and control, and multi-establishment firms may exist. The exception is the Farmer's Cooperative which operates in Bozeman, Belgrade, and Three Forks. It was treated as three entities or establishments rather than as a single firm for this study. A portion of the decline in actual number of firms from 1965 to 1969 is explained by the growth of pure chains during the period. For example, Theatre Operators, Inc., now owns several motion picture theatres in Bozeman. Although gross receipts and employment may have increased, there was a decline in the actual number of firms.

Seasonal businesses such as drive-in restaurants and outdoor theatres which had closed for the season prior to the field interviews were considered to be in operation and were included in the survey. Only those firms that had permanently closed before the field inventory and had not been operating during a portion of the year were omitted from the study. Care was exercised to preclude duplicate counting of firms since numerous businesses were known by two or more names.

Data Obtained

Once it was determined that a business should be included in the study, the businessman in charge of the firm was asked a number of questions concerning his firm. These questions included employment, date of business establishment, name and address of the legal owner of the business, and the type of legal ownership. In addition, the field interviewers recorded the name and address of the business, described the services and/or types of merchandise lines carried by the firm, and noted the number of gas pumps in the service stations and the number of lodging units in motels and hotels. Data were recorded on questionnaires. Copies of the questionnaires are found on the following pages, 7.5 through 7.10.

Each of the major items on the questionnaires will be discussed briefly below:

1. The name and address of the business are recorded.

2. The description of services and/or types of merchandise are given. A three-digit Standard Industrial Classification code is determined for each business. In the event the firm has more than one service or merchandise designation, multiple S.I.C. numbers are used.

3. The year in which the business started is recorded. If the business was established before 1960, the appropriate category is checked. If it is after 1959, the actual year in which it began is recorded. (Even though the data sheet for the 1965 survey reads, "If after 1960, specify year," all 1960 establishments were also noted in this space.)

ECONOMIC CORRIDOR STUDY
INVENTORY OF BUSINESS ESTABLISHMENTS

DATA SHEETS

Serial number____________ ☐☐☐ 1 2 3

1. Name and address of business:

____
name

____ ☐ 4
address town

2. Description of services and/or retail trade facilities:

____

____

____ ☐ 5

SIC code ☐ ☐☐☐ 6 7 8

3. Date of establishment of business:

prior to 1960 ☐ ☐ 9

after 1960 ____________________ ☐☐ 10 11
specify year

4. Number of employees (including proprietor and immediate family) for calendar year 1965. Use fractions of full-time year employment for part-time or seasonal full-time employees.

____________________ ☐☐☐ 12 13 14
number of employees

5. Motels, hotels, and service stations:

lodging units____________________ ☐☐☐ 15 16 17

gasoline pumps____________________ ☐☐ 18 19

6. Business and ownership organization:

____
legal owner

____
address town

proprietorship ☐ partnership ☐ corporation ☐ ☐ 20

SUPPLEMENTARY SERIAL CODES

A. Type of business group________________________________ ☐ 21

B. Letter group serial number____________________________ ☐☐☐☐☐ 22 23 24 25 26

C. Orientation-town serial number ________________________ ☐☐☐☐☐ 27 28 29 30 31

D. "1" column ☐ 32

☐☐☐ 33 34 35 ☐☐☐ 36 37 38 ☐☐☐ 39 40 41 ☐☐☐ 42 43 44 ☐☐☐ 45 46 47

ECONOMIC CORRIDOR STUDY (AFTER PHASE)
INVENTORY OF BUSINESS ESTABLISHMENTS

DATA SHEETS Serial number ________

☐☐☐ 1 2 3

1. What is the legal name and address of this business?

____
legal name

☐ 4

____________________________ ____________
street address town

2. Please describe the retail trade facilities or services provided by this place of business.

____

____

☐ 5

SIC code ☐

☐☐☐ 6 7 8

3. Was this business established:

Prior to 1960 ☐ (Check if before 1960)

☐ 9

1960 or after ☐ (Write in year if 1960 or after)

☐☐ 10 11

4. Please indicate the number of employees (including the proprietor and immediate family) for 1969 and 1968. Use fractions of full-time year employment for part-time or seasonal full-time employees.

Number of employees in 1969 ________

☐☐☐ 12 13 14

Number of employees in 1968 ________

5. IF THIS BUSINESS IS A MOTEL, HOTEL, OR SERVICE STATION, please indicate the number of lodging units and/or gasoline pumps in operation during 1969 and 1968.

Number of lodging units in 1969 ________

☐☐☐ 15 16 17

Number of lodging units in 1968 ________

Number of gasoline pumps in 1969 ________

☐☐ 18 19

Number of gasoline pumps in 1968 ________

6.a. Is this business a proprietorship, partnership, or corporation?

Proprietorship ☐ Partnership ☐ Corporation ☐

☐ 20

6.b. Please give the name and address of the legal owner of this business. (If it is a partnership, indicate the names and addresses of all partners. If it is a corporation, please give its legal name and address.)

____
legal owner(s) or legal corporation name

______________________________ __________
address town

6.c. IF THERE HAS BEEN A CHANGE IN OWNERS SINCE 1965, please indicate the:

name and address of the owner in 1969

____
name(s) and address(es) of the owner(s) in 1969

name and address of the owner in 1968

____
name(s) and address(es) of the owner(s) in 1968

6.d. IF THERE HAS BEEN A CHANGE IN TYPE OF OWNERSHIP (6.a.) SINCE 1965, please indicate the month and year of change. (For example, if the firm was a proprietorship and became a corporation, give the month and year of the change.)

Month and year of change ________ ______
Month Year

7. What effect has the completion of Interstate 90 west of Bozeman had on your business?

____

____

8. What long-run effect, say in 5 years or more, do you think Interstate 90 will have on your business?

____

____

SUPPLEMENTARY SERIAL CODES

A. Type of business group	____________	☐ 21
B. Letter group serial number	____________	☐☐☐☐☐ 22 23 24 25 26
C. Orientation-town serial number	____________	☐☐☐☐☐ 27 28 29 30 31
D. Year of operation -- Use "3"		3 32
E. ☐☐☐ 33 34 35 ☐☐☐ 36 37 38 ☐☐☐ 39 40 41 ☐☐☐ 42 43 44 ☐☐☐ 45 46 47		
F. Short-run effect	____________	☐ 48
G. Long-run effect	____________	☐ 49

SECOND CARD: 1968 DATA

4. Employment in 1968	☐☐☐ 12 13 14
5. Number of lodging units in 1968	☐☐☐ 15 16 17
5. Number of gasoline pumps in 1968	☐☐ 18 19
6.a. Type of ownership in 1968	☐ 20
D. Year of operation -- Use "2"	2 32

ECONOMIC CORRIDOR STUDY (AFTER PHASE)
GROSS RECEIPTS SAMPLE INFORMATION

Serial Number ________

Name of Business ______________________________

Street Address ______________________________ Town ________________

Legal form of organization: __Prop. __Part. __Corp.

Legal owner ______________________________

Address and City ______________________________

Number of Employees: 1969 ______

1968 ______

Serial Number ________

Gross Receipts -- 1969: ______________

Period Beginning ________________, 196__; ending _____________, 196__

Gross Receipts -- 1968: ______________

Period Beginning ________________, 196__; ending _____________, 196__

Comments:

4. Employment for the calendar years of 1965 or 1968 and 1969 is given. The number of employees is recorded on the basis of full-time yearly employment. Adjustments were made for part-time and seasonal employment. For example, a seasonally operated drive-in restaurant which employed four full-time persons for four months would be recorded as having one and one-third employees. Another example would be a business that hires extra persons during the summer only. If such a firm employed two persons for three months at 20 hours per week each, employment for the business would be two and one-fourth employees. Employment data include the time worked by the proprietory and his immediate family.

5. Specialized data for hotels, motels, and service stations are recorded. If the business had lodging accommodations, the number of individual housing units is indicated. Similarly, if the business has any gasoline or diesel fuel pumps, the number of pumps is noted.

6. Business ownership is given. The name and address of the legal owner of the firm is recorded along with the type of legal ownership. The after phase questionnaire includes questions for changes in ownership, prior owners, and dates of the changes.

7. On the after phase questionnaire, the perceived impact of Interstate 90 on a business is recorded. Question 7 calls for the current economic effects of I-90.

8. The question is similar to the previous one except it asks for the proprietor's opinion about the long-run effects.

The information listedunder the Supplementary Serial Codes headings on the last page of each of the before and after questionnaires was generated from the data recorded for the first eight items. Businesses were classified as either highway-oriented or nonhighway-oriented. Under this classification, all bars, cafes, gas stations, and most lodging places are classified as highway-oriented. The remainder of the firms in the survey were classified as nonhighway-oriented.

To facilitate processing of data appearing on the questionnaires, data were coded and transferred to cards for electronic data processing. A set of coding instructions is available in the Economic Corridor Study: Before Phase report.

Gross Receipts

One of the most important indicators of the corridor study is the 1965 to 1968 and 1969 changes in gross receipts of the firms in the study area. Gross receipts data for the three years were obtained from the Montana State Board of Equalization and through personal interviews.

Method of Data Collection

Prior to the field inventory, arrangements were made with the Montana State Board of Equalization for its cooperation and assistance in obtaining gross receipts data. The Board agreed to supply these data with two stipulations: (1) The list of gross receipts that they prepared would show the receipts of each firm but in such a format that the receipts could not be associated with a particular firm. To satisfy this condition, the firms were classified into groups representing the various communities and several subdivisions representing major S.I.C. categories. The list originally was sent to the Board with a series of 1965 firms; it was returned with gross receipts placed under appropriate group headings. In the second phase, the list was resubmitted to the Board. The 1968 and 1969 gross receipts of the firms were placed opposite the 1965 gross receipts. This method would allow comparison of 1968 and 1969 gross receipts with 1965 data without disclosing any specific firms with which the receipts figures were associated. (2) Work undertaken by Board personnel would be outside of normal working hours and would not interfere with the Board's normal operations.

In accordance with this agreement, information was obtained during the field interviews so that the firms could be identified under the Board's filing system and the firms were classified into appropriate groups. The necessary identification information was obtained from item six on the before and after phase questionnaires. It included the name and address of the legal owners of the firms, the legal form of business ownership, and any ownership changes occurring from January 1, 1965, through December 31, 1969. If there had been a change in ownership, the name and address of the former legal owner, the previous type of ownership, and the date of the change were recorded. Data were transferred from the data sheets to index cards before the firms were classified into groups.

The firms were classified in two ways--by geographical location and by business orientation. The five geographical location categories were Bozeman, Belgrade, Manhattan, Three Forks, and "other locations." The other locations included businesses in

Amsterdam, Churchill, Logan, Trident, and Willow Creek. After the firms were grouped by geographic location, they were further classified according to business orientation. There are two basic orientation categories: highway-oriented and nonhighway-oriented. The basic classification system yielded ten subgroups.

To gain flexibility in gross receipts change comparisons among groups, a more detailed orientation breakdown was applied. Highway-oriented groups were divided into "eating and drinking places," (SIC 58), and "other highway-oriented" firms. The nonhighway-oriented businesses were divided into three sections: "building materials, hardware, and farm equipment," (SIC 52); "personal services," (SIC 72); and "other nonhighway-oriented." Thus, each of the first four location categories (Bozeman, Belgrade, Manhattan, and Three Forks) had five possible orientation categories. The "other locations" category had just two orientation categories--highway and nonhighway. In presentation of gross receipts data, because of the relatively small sizes of categories for all of the communities except Bozeman, the data have been regrouped into just two categories for each of the communities, namely, highway-oriented and nonhighway-oriented.

For 1965, 552 firms were submitted to the Board, with gross receipts data obtained for 387 firms. The numbers submitted for 1968 and 1969 were 529 and 544, respectively, with 403 firms for which gross receipts data were available. Several reasons account for the Board's inability to provide receipts for all firms. Some firms had not been established before December 31, 1965, and had not filed tax returns for 1965. For the sake of consistency, they should not have been included in the 1965 survey. Several "multi-locational" corporations report gross receipts for all of their outlets in Montana on a single tax return, and, therefore, the gross receipts of a single establishment would not be reported. Examples include 4 B's Cafes, Buttrey Foods, and Montgomery Ward (Marcor). None of these firms operated more than one establishment in any of the surveyed communities. In addition, a considerable number of small proprietors neglected to report their gross receipts. Although reporting of gross receipts is required, taxes are levied on net income and taxpayers in these instances listed only net incomes. Finally, the Board was unable to locate certain firms because the index card information was in error or for unexplained reasons. Many complexities were associated with the after phase of the study, with an estimated 30 percent of the firms resurveyed reporting changes in owners, type of legal ownership, or business addresses. In one of the corridor communities, Belgrade, such changes exceeded 50 percent of the firms. In addition to these changes, some firms in operation in 1965 were no longer in business and others were started after 1965. Still other firms had started operations after 1965 but were out of business by 1968.

A systematic random sampling technique was employed to survey firms for which gross receipts data were not made available by the Board of Equalization. In both phases, approximately fifty firms comprised the samples. Where possible, those firms included in the 1965 sample were resurveyed for 1968 and 1969 data. Some firms were out of business by 1968 while others had started operations after 1965. It was necessary to make a few substitutions where proprietors or managers declined to provide gross receipts data. Our surveyors found a significant number of proprietors who were reluctant to divulge gross receipts data. Perhaps, as a sign of the times, social turmoil has created a wariness among members of the business population. Generally unfavorable economic conditions along with a state financial crisis may have contributed to the decline in cooperation.

Interviewers were trained and supervised for both surveys. During the after phase, approximately 10 percent of the respondents were resurveyed as a form of control.

Determination of Changes in Gross Receipts

Data utilized to determine changes in gross receipts came from two sources: those supplied by the Board of Equalization and those obtained from sample surveys. The data from each source were combined to determine the 1965 to 1968 and 1969 changes in gross receipts. For each of the five geographical locations, two subcategories were used, namely, highway-oriented firms and nonhighway-oriented firms.

The parameter--the change in gross receipts between 1965 and 1968 and 1969 for each of the ten groups--was calculated, also, for the entire business group. Each firm's individual change was weighted by that firm's gross receipts in calculating the parameter. We found it useful in making comparisons to allow 1965 to be considered as a 100 base for the subsequent index of change in receipts. Thus:

$$\frac{\text{Sum of all 1968 (or 1969) gross receipts}}{\text{Sum of all 1965 gross receipts}} \quad (100)$$

The method used to estimate the parameter must possess two qualities--precision and adaptability. In numerical form, the parameter was expected to assume values between 90 and 135; originally, we considered it likely that many of the parameters would cluster around 110 to 125. In most instances, these results were obtained. The estimator was not to deviate from the true parameter by more than a few points. The second quality--adaptability--was essential because between 1965 and 1969 some firms would be expected to go out of business and others would be established. The method used was designed so that the effects of these potential exits and entries would be reflected in the estimator to the extent that they affected the true parameter.

To satisfy the need for precision, the study group made use of the gross receipts information obtained from the Board of Equalization and a sampling method that efficiently estimated the parameter for the remaining firms in each of the ten groups. Thus, the 1965 to 1968 and 1969 changes in gross receipts could be determined for those firms in each group for which data were available. The sampling method applied to the remaining firms was a sample based upon the change in gross receipts, i.e., each firm in the sample was contacted for 1965 and 1968 and 1969 receipts, with noted exceptions.

Sampling the changes in gross receipts is more efficient than the apparent alternative which would have involved two samples of gross receipts. Under this alternative method, each phase would have demanded a separate and independent sample to determine the gross receipts of the remaining firms. The estimated gross receipts would have been added to the receipts obtained from the Board. The sum would be an estimate of group gross receipts for the particular year. Change would be determined by dividing the 1968 and 1969 estimated receipts by 1965 estimated receipts. However, because of the high variability in the gross receipts of the study area firms, the standard error of both of these independent estimates would have been large. In the gross receipts obtained from the Board, the difference in the gross receipts of any two randomly selected firms was likely to be around $100,000, if not greater. Although the variable gross receipts were apparently highly volatile, the variable change in gross receipts was expected to be fairly homogeneous. The expected homogeneity would result from the firms being subjected to the same economic influences. The sample of change in gross receipts would involve one sample of a variable with a fairly small standard error rather than the alternative independent sampling of two variables, each with a relatively large standard error.

Potential exists and entries were taken into account by expanding the sample population to include all firms in existence in 1965 and all firms in existence in 1968 and 1969. If a firm dropped from a group, its gross receipts would have changed from its 1965 level to zero; the change would be minus its 1965 receipts. This procedure would apply to both the firms for which information was obtained from the Board and the sample point firms (firms interviewed). If a firm leaving a class was in the sample population but not a sample point, nothing would be done with its receipts. In the case of entering firms, a zero was associated with their

1965 receipts; their recorded change would be the full amount of their 1968 and 1969 receipts. Receipts for entering firms were determined both from data from the Board and from sampling.

The procedure for combining a group's sample data with that obtained from the Board is presented symbolically in the formula:

$$C_{bo} = \frac{X_{bo}^{(68)} + \frac{1}{a_{bo}} Y_{bo}^{(68)}}{X_{bo}^{(65)} + \frac{1}{a_{bo}} Y_{bo}^{(65)}} \quad (100)$$

where:

C_{bo} = the 1965 based index of the 1965 to 1968 change in receipts for Bozeman highway-oriented firms

$X_{bo}^{(65)}$ = the sum of 1965 receipts supplied by the Board of Equalization for firms in the Bozeman highway-oriented group

$X_{bo}^{(68)}$ = the sum of 1968 receipts supplied by the Board of Equalization for firms in the Bozeman highway-oriented group

$Y_{bo}^{(65)}$ = the sum of 1965 receipts for the Bozeman highway-oriented sample firms

$Y_{bo}^{(68)}$ = the sum of 1968 receipts for the Bozeman highway-oriented sample firms

a_{bo} = the rate at which the sample population in the Bozeman highway-oriented group was sampled in 1965 and 1968

To determine the change in receipts for two groups, the following formula would be used:

$$C_{be,bo} = \frac{X_{be}^{(68)} + \frac{1}{a_{be}} Y_{be}^{(68)} + X_{bo}^{(68)} + \frac{1}{a_{bo}} Y_{bo}^{(68)}}{X_{be}^{(65)} + \frac{1}{a_{be}} Y_{be}^{(65)} + X_{bo}^{(65)} + \frac{1}{a_{bo}} Y_{bo}^{(65)}} \quad (100)$$

where:

$C_{be,\,bo}$ = the 1965 based weighted index of the 1965 to 1968 change in receipts for Belgrade and Bozeman highway-oriented firms

Any number of groups may be combined by the methods described above to determine an appropriately weighted index of change in gross receipts.

General Indicators

The general indicators applied in the corridor study included electrical hookups and electric power consumption in kilowat hours, telephone hookups, bank deposits, and public school enrollments.

Electrical Hookups and Electric Power Consumption

Data for electrical hookups and power consumption were obtained from the Montana Power Company. Since Montana Power Company is the only supplier of electricity in the corridor, complete data were available. The Montana Power Company supplied information for the years 1960, 1965, 1968, and 1969. The Company's records of the hookups and consumption are maintained by "metering stations." The stations represent a point on a transmission line where electricity is taken off the line for distribution to customers. As the electricity is taken from the transmission lines, the amount is measured and reports are maintained which indicate how many customers are served from the stations and their electrical consumption. The metering stations are usually located in communities and serve the surrounding rural area as well as the community itself. The metering stations in the corridor area are located in Bozeman, Belgrade, Manhattan, Three Forks, Amsterdam, Logan, Trident, and Willow Creek.

The geographical areas served by each of these stations were not defined. To define the areas would require an extensive analysis of the Power Company's customer service records--a project too expensive to justify the additional detail that might be contributed. However, according to an official of Montana Power Company, the area served by the metering stations would roughly conform to the corridor area as it has been defined. The collective geographical areas served by the stations would probably extend beyond the corridor boundaries, but the overlaps would tend to be in areas of sparse population. Such extensions would not seriously distort the comparisons of either of these indicators, i.e., electrical hookups and power consumption.

The customer classification provided by Montana Power Company includes residential, commercial, industrial, and "other." The "other" category is composed largely of federal, state, and local government customers.

Telephone Hookups

There is only one telephone service supplier in the corridor area--Mountain States Telephone Company (Mountain Bell). Telephone hookup data were obtained from the Company's district office at Bozeman. Data provided by the Company show net hookups for "residential" and "other" customers by exchange area. The "other" customer category includes all customers that are not classified as residential. The telephone exchange areas for which data are available include Bozeman, Belgrade, Manhattan, and Three Forks.

The combined area of the four exchanges is somewhat larger than the study area. Extensions beyond the corridor area are in sparsely settled areas with the exceptions of the areas served around Chestnut, Bozeman, Hot Springs, and Bridger Canyon. These areas are in the Bozeman exchange area. Net hookup data are reported for both the Bozeman urban area and the Bozeman rural area. Telephone hookup data for the outside populated areas are classified under Bozeman "Rural." Thus, by deleting Bozeman Rural from the Bozeman exchange area statistics, the inclusion of more populated areas outside of the corridor was avoided. On the other hand, we did not expect the inclusion of the other quite sparsely populated regions to affect the determined change in the indicator to any significant degree.

Telephone data are reported for the years 1960 through 1969. They represent the number of hookups in service as of December 31 of each year.

Bank Deposits

Commercial bank deposits were obtained from the *Commercial West Bank Directory of the Ninth Federal Reserve District*. Data are for three commercial banks in Bozeman and one bank in each of the following towns: Belgrade, Manhattan, and Three Forks. Data are given for the years 1960 through 1969.

School Enrollments

Primary and secondary public school enrollment data were obtained from the Superintendent of Public Instruction in Helena and covered the school years from 1960 through 1969. Data were available for Bozeman, Belgrade, Manhattan, Three Forks, Amsterdam, Logan, Trident, and Willow Creek.

Traffic Indicators

Three traffic indicators were to be used in the investigation to provide information about traveler characteristics and changes in travel patterns. The Montana Highway Commission made origin and destination surveys of motorists. Similarly, average daily traffic flows for 1966 and 1970 were prepared. Unfortunately, the 1966 data were unuseable. Therefore, the year 1958 for which a previous study was conducted, was to be substituted. After careful consideration of the necessary weightings which would be required, it was decided to eliminate the traffic origin and destination surveys and mechanical traffic counter data. The third traffic indicator was retained, namely, gasoline sales. The Montana Petroleum Association supplied gasoline sales data for the study area. Yearly gallonage reports were provided from 1961 through 1969 excluding the year, 1962. Reports on gasoline gallonage are based upon information reported to the State Board of Equalization by the individual dealers. For gasoline tax purposes, dealers (legally defined as manufacturers or importers) are required to report the gallonages they sell by the geographical destination of their sales. They are required to report the town in which their buyers do business and the amount of gasoline sold to each buyer. The communities listed in these reports are Bozeman, Belgrade, Manhattan, Three Forks, and "other locations," which include the very small communities.

APPENDIX B

SUPPLEMENTARY TABLES

On the following pages, additional data are provided for several economic variables or factors. Tables included are: Standard Industrial Classification of corridor firms, electricity customers and power consumption, telephone users, public school enrollments, and I-90 construction projects.

Table 17

CHANGE IN PERCENTAGE DISTRIBUTION OF CORRIDOR BUSINESS FIRMS, 1965-69, BY STANDARD INDUSTRIAL CLASSIFICATION CATEGORIES

SIC Code	Description of Business	Number of Businesses					
		1965		1968		1969	
		Number	Percent	Number	Percent	Number	Percent
52	Building materials, hdwe, farm equip.	33	6.0	31	5.9	32	5.9
53	Retail trade; general merchandise	12	2.2	14	2.6	14	2.6
54	Food stores	25	4.5	24	4.5	25	4.6
55	Automotive dealers; service stations	63	11.5	65	12.3	69	12.7
56	Apparel and accessory stores	19	3.4	19	3.6	20	3.7
57	Furniture, home furnishings, appliances	16	2.9	14	2.6	14	2.6
58	Eating and drinking places	49	8.9	48	9.1	50	9.2
59	Miscellaneous retail stores	54	9.8	53	10.0	56	10.3
60	Banking	6	1.1	6	1.1	6	1.1
61	Credit agencies other than banks	4	0.7	4	0.8	4	0.7
62	Security and commodity brokers, dealers	4	0.7	3	0.6	3	0.6
63	Insurance carriers	5	0.9	4	0.8	4	0.7
64	Insurance agents, brokers, and service	15	2.7	16	3.0	18	3.3
65	Real estate	9	1.6	11	2.1	10	1.8
66	Combination real estate, insurance, loans	6	1.1	6	1.1	6	1.1
70	Hotels, motels, and lodging places	33	6.0	28	5.3	28	5.1
72	Personal services	57	10.3	56	10.6	56	10.3
73	Miscellaneous business services	16	2.9	12	2.3	11	2.0
75	Automobile repair, service, and garages	17	3.1	13	2.5	14	2.6
76	Miscellaneous repair services	21	3.8	17	3.2	17	3.1
78	Motion pictures	4	0.7	2	0.4	2	0.4
79	Amusement and recreation services	5	0.9	5	0.9	5	0.9
80	Medical and other health services	51	9.2	51	9.6	53	9.7
81	Legal services	16	2.9	14	2.6	14	2.6
82	Educational services	1	0.2	2	0.4	2	0.4
86	Nonprofit membership organizations	1	0.2	1	0.2	1	0.2
89	Miscellaneous services	10	1.8	10	1.9	10	1.8
	Total	552	100.0	529	100.0	544	100.0

Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Table 18

PERCENTAGE CHANGE IN DISTRIBUTION OF BOZEMAN BUSINESS FIRMS, BY STANDARD INDUSTRIAL CLASSIFICATION CATEGORIES, 1965-1969

SIC Code	Description of Business	Number of Businesses					
		1965		1968		1969	
		Number	Percent	Number	Percent	Number	Percent
52	Building materials, hdwe, farm equip.	20	4.8	17	4.3	18	4.4
53	Retail trade; general merchandise	8	1.9	10	2.5	10	2.4
54	Food stores	14	3.4	14	3.5	15	3.7
55	Automotive dealers; service stations	49	11.8	52	12.8	55	13.5
56	Apparel and accessory stores	15	3.6	15	3.8	16	3.9
57	Furniture, home furnishings, appliances	16	3.8	14	3.5	14	3.4
58	Eating and drinking places	29	7.0	27	6.8	29	7.1
59	Miscellaneous retail stores	45	10.8	45	11.1	46	11.2
60	Banking	3	0.7	3	0.8	3	0.7
61	Credit agencies other than banks	4	1.0	4	1.0	4	1.0
62	Security and commodity brokers, dealers	4	1.0	3	0.8	3	0.7
63	Insurance carriers	5	1.2	4	1.0	4	1.0
64	Insurance agents, brokers, and service	12	2.9	13	3.3	15	3.7
65	Real estate	9	2.2	11	2.8	10	2.4
66	Combination real estate, insurance, loans	5	1.2	5	1.3	5	1.2
70	Hotels, motels, and lodging places	20	4.8	17	4.3	17	4.1
72	Personal services	42	10.1	41	10.3	41	10.0
73	Miscellaneous business services	16	3.8	12	3.0	11	2.7
75	Automobile repair, service, and garages	9	2.2	7	1.8	7	1.7
76	Miscellaneous repair services	14	3.4	11	2.8	11	2.7
78	Motion pictures	3	0.7	1	0.3	1	0.2
79	Amusement and recreation services	4	1.0	4	1.0	4	1.0
80	Medical and other health services	43	10.3	43	10.6	45	11.0
81	Legal services	15	3.6	13	3.3	13	3.2
82	Educational services	1	0.2	2	0.5	2	0.5
86	Nonprofit membership organizations	1	0.2	1	0.3	1	0.2
89	Miscellaneous services	10	2.4	10	2.5	10	2.4
	Total	416	100.0	399	100.0	410	100.0

Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Table 19

PERCENTAGE CHANGE IN DISTRIBUTION OF BELGRADE BUSINESS FIRMS, BY STANDARD INDUSTRIAL CLASSIFICATION CATEGORIES, 1965-1969

SIC Code	Description of Business	Number of Businesses					
		1965		1968		1969	
		Number	Percent	Number	Percent	Number	Percent
52	Building materials, hdwe, farm equip.	3	9.7	3	11.1	3	10.3
53	Retail trade; general merchandise						
54	Food stores	1	3.2	1	3.7	1	3.4
55	Automotive dealers; service stations	4	12.9	3	11.1	4	13.8
56	Apparel and accessory stores	2	6.5	2	7.4	2	6.9
57	Furniture, home furnishings, appliances						
58	Eating and drinking places	5	16.1	6	22.3	6	21.1
59	Miscellaneous retail stores	2	6.5	2	7.4	2	6.9
60	Banking	1	3.2	1	3.7	1	3.4
61	Credit agencies other than banks						
62	Security and commodity brokers, dealers						
63	Insurance carriers						
64	Insurance agents, brokers, and service	1	3.2	1	3.7	1	3.4
65	Real estate						
66	Combination real estate, insurance, loans	1	3.2	1	3.7	1	3.4
70	Hotels, motels, and lodging places	3	9.7	3	11.1	3	10.3
72	Personal services	4	12.9	3	11.1	3	10.3
73	Miscellaneous business services						
75	Automobile repair, service, and garages	2	6.5	0	0.0	1	3.4
76	Miscellaneous repair services	1	3.2	0	0.0	0	0.0
78	Motion pictures						
79	Amusement and recreation services						
80	Medical and other health services	1	3.2	1	3.7	1	3.4
81	Legal services						
82	Educational services						
86	Nonprofit membership organizations						
89	Miscellaneous services						
	Total	31	100.0	27	100.0	29	100.0

Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Table 20

PERCENTAGE CHANGE IN DISTRIBUTION OF MANHATTAN BUSINESS FIRMS,
BY STANDARD INDUSTRIAL CLASSIFICATION CATEGORIES, 1965-1969

SIC Code	Description of Business	Number of Businesses					
		1965		1968		1969	
		Number	Percent	Number	Percent	Number	Percent
52	Building materials, hdwe, farm equip.	4	11.8	5	15.7	5	15.3
53	Retail trade; general merchandise						
54	Food stores	4	11.8	4	12.5	4	12.1
55	Automotive dealers; service stations	1	2.9	1	3.1	1	3.0
56	Apparel and accessory stores	1	2.9	1	3.1	1	3.0
57	Furniture, home furnishings, appliances						
58	Eating and drinking places	3	8.8	3	9.4	3	9.1
59	Miscellaneous retail stores	2	5.9	1	3.1	2	6.1
60	Banking	1	2.9	1	3.1	1	3.0
61	Credit agencies other than banks						
62	Security and commodity brokers, dealers						
63	Insurance carriers						
64	Insurance agents, brokers, and service	1	2.9	1	3.1	1	3.0
65	Real estate						
66	Combination real estate, insurance, loans						
70	Hotels, motels, and lodging places	3	8.8	2	6.3	2	6.1
72	Personal services	4	11.9	4	12.5	4	12.1
73	Miscellaneous business services						
75	Automobile repair, service, and garages	2	5.9	1	3.1	1	3.0
76	Miscellaneous repair services	3	8.8	3	9.4	3	9.1
78	Motion pictures	1	2.9	0	0.0	0	0.0
79	Amusement and recreation services	0	0.0	1	3.1	1	3.0
80	Medical and other health services	4	11.8	4	12.5	4	12.1
81	Legal services						
82	Educational services						
86	Nonprofit membership organizations						
89	Miscellaneous services						
	Total	34	100.0	32	100.0	33	100.0

Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Table 21

PERCENTAGE CHANGE IN DISTRIBUTION OF THREE FORKS BUSINESS FIRMS, BY STANDARD INDUSTRIAL CLASSIFICATION CATEGORIES, 1965-1969

SIC Code	Description of Business	Number of Businesses 1965 Number	1965 Percent	1968 Number	1968 Percent	1969 Number	1969 Percent
52	Building materials, hdwe, farm equip.	4	7.3	4	7.1	4	7.0
53	Retail trade; general merchandise	1	1.8	1	1.8	1	1.8
54	Food stores	4	7.3	4	7.1	4	7.0
55	Automotive dealers; service stations	8	14.5	7	12.5	7	12.2
56	Apparel and accessory stores	1	1.8	1	1.8	1	1.8
57	Furniture, home furnishings, appliances						
58	Eating and drinking places	10	18.3	11	19.6	11	19.2
59	Miscellaneous retail stores	5	9.1	5	8.9	6	10.5
60	Banking	1	1.8	1	1.8	1	1.8
61	Credit agencies other than banks						
62	Security and commodity brokers, dealers						
63	Insurance carriers						
64	Insurance agents, brokers, and service	1	1.8	1	1.8	1	1.8
65	Real estate						
66	Combination real estate, insurance, loans						
70	Hotels, motels, and lodging places	7	12.7	6	10.7	6	10.5
72	Personal services	6	10.9	7	12.5	7	12.2
73	Miscellaneous business services						
75	Automobile repair, service, and garages	0	0.0	1	1.8	1	1.8
76	Miscellaneous repair services	2	3.6	2	3.6	2	3.5
78	Motion pictures	1	1.8	1	1.8	1	1.8
79	Amusement and recreation services						
80	Medical and other health services	3	5.5	3	5.4	3	5.3
81	Legal services	1	1.8	1	1.8	1	1.8
82	Educational services						
86	Nonprofit membership organizations						
89	Miscellaneous services						
	Total	55	100.0	56	100.0	57	100.0

Source: Bureau of Business and Economic Research, University of Montana, Missoula, Montana.

Table 22

ELECTRICITY CUSTOMERS AND USAGE, BY TYPE, 1960, 1965, 1968, 1969

	Residential		Commercial		Industrial		Other		Total	
	Customers	KWH	Customers	KWH	Customers	KWH	Customers	KWH	Customers	KWH
					1960					
Amsterdam	395	3,758,432	40	328,296	1	72,675	1	6,180	437	4,165,583
Belgrade	503	2,876,203	87	840,131	10	5,044,070	1	56,540	601	8,816,944
Bozeman	4,905	17,666,596	677	17,024,042	49	4,328,776	4	1,330,300[b]	5,635	40,349,714
Logan	55	223,346	12	53,390	6	28,946	1	11,736	74	317,418
Manhattan	411	2,073,607	79	618,772	10	162,128	1	56,916	501	2,911,423
Three Forks	401	1,579,100	107	963,512	6	218,094	1	54,744	515	2,815,450
Trident	30	107,218	3	11,698	3	28,342,616[a]	-	- - -	36	28,461,532
Willow Creek	165	1,250,748	40	171,332	3	391,916	1	8,388	209	1,822,384
					1965					
Amsterdam	437	4,613,449	38	384,607	-	- - -	2	173,542	477	5,171,598
Belgrade	568	3,837,134	87	1,109,119	10	5,809,285	1	68,253	666	10,823,791
Bozeman	5,554	24,871,957	704	29,845,120	56	4,595,286	5	1,709,979[b]	6,319	61,022,342
Logan	51	211,345	9	32,236	6	31,832	1	11,736	67	287,149
Manhattan	418	2,599,263	82	785,320	10	141,838	2	124,452	512	3,650,873
Three Forks	440	2,011,949	119	1,336,697	7	338,093	1	80,522	567	3,767,261
Trident	18	79,604	3	14,728	3	23,215,872[a]	-	- - -	24	23,310,204
Willow Creek	173	1,467,228	55	251,287	4	1,481,047	1	8,388	233	3,207,950
					1968					
Ansterdam	466	5,649,174	47	502,576	4	396,016	2	31,404	519	6,579,170
Belgrade	584	4,408,850	101	1,184,668	10	5,543,612	3	84,065	698	11,221,195
Bozeman	6,011	30,782,181	747	41,459,010	56	5,558,870	23	1,261,821[b]	6,837	79,061,882
Logan	52	231,080	11	30,661	6	39,578	1	11,736	70	313,055
Manhattan	424	2,866,282	81	934,527	13	239,300	4	127,674	522	4,167,783
Three Forks	481	2,410,869	123	1,973,919	9	371,906	4	89,108	617	4,845,802
Trident	15	97,428	3	10,922	3	26,200,904[a]	1	682	22	26,309,936
Willow Creek	172	1,795,415	53	363,537	7	1,525,422	5	111,263	237	3,795,637
					1969					
Amsterdam	483	5,879,695	48	489,518	5	488,108	2	31,404	538	6,888,725
Belgrade	623	4,690,828	96	1,353,065	10	5,317,109	3	85,990	732	11,446,992
Bozeman	6,181	33,618,546	773	46,589,225	54	6,486,919	22	1,386,825[b]	7,030	88,081,515
Logan	49	238,415	11	31,365	8	73,048	1	11,736	69	354,564
Manhattan	425	3,013,822	85	1,759,667	13	336,026	4	127,800	527	5,237,315
Three Forks	482	2,575,437	120	2,262,753	8	392,579	7	99,676	617	5,330,445
Trident	16	86,166	3	13,498	3	34,501,516[a]	1	464	23	34,601,644
Willow Creek	178	1,895,972	67	278,212	11	1,946,327	5	66,874	261	4,187,385

a. Majority in Ideal Cement Co. b. Includes MSU Source: Montana Power Company, Butte Office

Table 23

TOTAL NUMBER OF TELEPHONE STATIONS IN SERVICE, BY EXCHANGE AREA

	EXCHANGE AREAS								
	BOZEMAN[1]			BELGRADE		MANHATTAN		THREE FORKS	
Year Ending	Residential	Other	Rural	Residential	Other	Residential	Other	Residential	Other
Dec. 31, 1960	5,416	2,721	584	494	106	613	102	540	132
Dec. 31, 1961	5,609	2,849	602	490	115	606	115	557	137
Dec. 31, 1962	5,710	2,922	600	555	106	626	111	588	145
Dec. 31, 1963	5,900	2,941	592	563	101	650	114	607	153
Dec. 31, 1964	6,187	3,090	633	572	115	657	115	629	150
Dec. 31, 1965	6,576	3,250	649	598	112	674	123	643	146
Dec. 31, 1966	7,335	3,535	679	630	116	679	137	661	153
Dec. 31, 1967	7,725	3,786	710	674	118	724	142	673	172
Dec. 31, 1968	8,318	3,937	733	726	124	743	139	697	167
Dec. 31, 1969	8,761	4,287	806	783	135	779	139	714	176

[1] Bozeman Rural excludes the Bozeman base area which is the approximate city limits of Bozeman. The stations listed under the Bozeman rural area are included in the Bozeman exchange area figures.

Resid. - Urban and rural residential telephones in service

Other - Urban and rural business telephones in service

Rural - Rural residential and business telephones included as part of Residential and Other statistics. These telephones located outside the urban boundary which coincides with city limits.

Source: Mountain States Telephone Company, Bozeman District Office

Table 24

SCHOOL ENROLLMENT,

1960-1969

	Bozeman		Belgrade		Three Forks		Manhattan		Willow Creek		Logan	Amster-dam	Central Park	Trident	Total	
	Elem	HS	Elem	HS	Elem	HS	Elem	HS	Elem	HS	Elem	Elem	Elem	Elem	Elem	HS
1960-1961	2,075	773	368	114	259	115	280	114	80	24	42	21	11	19	3,155	1,140
1961-1962	2,241	876	385	120	286	114	273	141	80	30	36	17	14	18	3,350	1,281
1962-1963	2,261	966	379	138	268	125	253	149	93	64	28	25	17	13	3,337	1,442
1963-1964	2,183	1,055	387	150	300	117	285	150	76	54	22	20	15	11	3,299	1,526
1964-1965	2,260	1,102	441	177	313	115	282	154	65	45	21	17	12	8	3,419	1,593
1965-1966	2,410	1,160	466	167	271	139	259	158	64	47	19	12	17	6	3,524	1,671
1966-1967	2,417	1,225	447	159	270	134	251	165	72	47	22	12	15	-*	3,506	1,730
1967-1968	2,458	1,233	461	165	291	125	263	157	69	40	24	16	16	-	3,598	1,720
1968-1969	2,700	1,205	452	194	289	128	235	147	63	39	21	15	11	-	3,786	1,713

*Closed

Source: Superintendent of Public Instruction, Helena.

Table 25

I-90 CONSTRUCTION PROJECTS, 1963-1970

PROJECT NO.	DESIGNATION	CONTRACT LET	START WORK	CONTRACT COMPLETE	MONTH AND YEAR OPEN TO TRAVEL
I-90-6(5)U1	Three Forks-Logan	9-26-62	10-15-62	11-13-63	12-64
I-90-6(5)U2	" " "	9-26-62	10-29-62	12- 9-63	12-64
I-90-6(9)	" " "	11-28-62	1- 7-63	7-15-64	12-64
I-90-6(19)	" " "	4-27-65	11-16-65	12- 1-65	12-64
I-90-6(15)	" " "	7-24-63	10-22-63	5- 6-65	12-64
I-90-6(8)	" " "	9-26-62	10-26-62	8-30-63	12-64
I-90-6(7)	" " "	9-26-62	11-29-62	9-26-63	12-64
I-90-6(10)U1	Logan-Manhattan	4-24-63	5-31-63	12- 2-64	12-64
I-90-6(10)U2	" "	4-24-63	5-31-63	10-28-64	12-64
I-90-6(11)	" "	11-20-63	3-11-64	12- 3-64	12-64
I-90-6(14)U1	Manhattan-Belgrade	6-25-64	9- 2-64	11-14-66	10-66
I-90-6(14)U2	" "	6-25-64	11- 5-64	10-26-66	10-66
I-90-6(14)U3	" "	6-25-64	9-15-64	7-31-65	10-66
I-90-6(14)U4	" "	6-25-64	8- 3-64	7-31-65	10-66
I-90-6(13)U1	Belgrade-Bozeman	4-29-64	6- 4-64	8-17-66	10-66
I-90-6(13)U2	" "	4-29-64	7- 2-64	11-10-66	10-66
I-90-6(13)U3	" "	6-25-64	9- 2-64	11-14-66	10-66
I-90-6(16)	West Bozeman Interchange	6-21-66	7-12-66	12- 6-66	10-66
I-90-5(16)272 U1	Three Forks West	6-26-67	7-17-67	8-22-69	7-69
I-IG-90-6(21)275 U1	" " "	6-26-67	7-17-67	8-22-69	7-69
I-IG-90-6(21)275 U2	Three Forks West	6-26-67	8- 8-67	8- 8-69	7-69
I-90-5(16)272 U2	" " "	6-26-67	8- 8-67	8- 8-69	7-69

(Continued on next page)

PROJECT NO.	DESIGNATION	CONTRACT LET	START WORK	CONTRACT COMPLETE	MONTH AND YEAR OPEN TO TRAVEL
I-90-5(18)265 U1	Milligan Canyon to Jct 287	8-27-68	9-30-68	11-22-69	9-70
I-90-5(18)265 U2	" "	7-31-68	10- 9-68	11-20-69	9-70
I-90-5(19)255 U1	Cardwell-Milligan Canyon	7-31-68	9- 3-68	11- 3-69	9-70
I-90-5(19)255 U2	" "	7-31-68	9- 9-68	11- 3-69	9-70
I-90-5(23)255	Cardwell-Milligan Canyon	7-23-69	9- 5-69	11-13-70	9-70
I-90-5(24)265	To Jct 287	7-23-69	9- 5-69	11-13-70	9-70

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